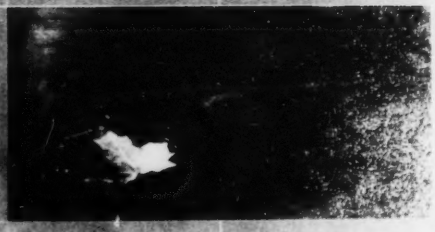
National Energy Board

Office national de l'énergie

Annual Report 2001
to Parliament



102-04397/

15 March 2002

The Honourable Herb Dhaliwal, P.C., M.P.
Minister of Natural Resources Canada
580 Booth Street, 21st Floor
Ottawa, Ontario
K1A 0E4

Dear Minister:

I am pleased to submit the Annual Report of the National Energy Board for the year ending 31 December 2001, in accordance with the provisions of Section 133 of the *National Energy Board Act, R.S.C. 1985*, c. N-7.

Yours truly,

Kenneth W. Vollman
Chairman

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Our Goals:

NEB-regulated facilities are safe and perceived to be safe.

NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals' rights.

Canadians derive the benefits of economic efficiency.

The NEB meets the evolving needs of the public to engage in NEB matters.

CHAIRMAN'S LETTER

The year 2001 tested the ability of energy markets to adjust to unprecedented volatility. The year began with record high natural gas prices throughout North America, a crisis situation in the California electricity market, and the highest oil prices since the 1991 Gulf war. By spring, however, both natural gas and oil prices were falling and by summer prices had returned to more normal levels. At the same time, the California situation eased as electric power consumption declined and supply increased. The year demonstrated the resiliency of energy markets to adjust to severe price swings.

One of the National Energy Board's main responsibilities to Canadians is to foster an efficient pipeline network delivering hydrocarbon fuels to energy users. I am pleased to report that the Canadian pipeline infrastructure responded extremely well to the market demands of 2001, reliably delivering about $85 billion of natural gas, crude oil and petroleum products.

When assessing applications for new facilities, the Board ensures that a proper balance between economic, environmental and societal issues is achieved. The Board also realizes that companies planning large investments need clear regulatory requirements and dependable timelines. The Board worked throughout the year with other boards and agencies to develop a cooperation plan for a coordinated review of potential applications to construct a northern natural gas pipeline.

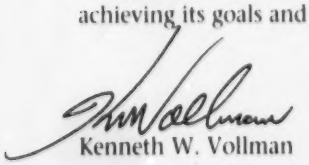
The Board is also responsible for promoting the safe construction and operation of federally regulated pipelines. Pipelines continue to be one of the safest modes of transport and most Canadians go about their daily business unaware of the smooth working of the more than 40 000 kilometres of pipeline under the Board's jurisdiction. In 2001, there were two major ruptures on these pipelines, neither of which resulted in injury to a member of the Canadian public.

Public concern about pipeline safety has risen since the events of 11 September 2001. The Board began work with the industry and other government agencies on ways of enhancing the security of the Canadian pipeline network. Changes have also been proposed to the *National Energy Board Act* that will support the Board in promoting a secure energy infrastructure.

The Board is also concerned that pipelines are operated in a manner that protects the environment. The Board has been moving towards goal-oriented regulation with a view to improving industry's ownership of environmental performance. As part of this strategy, in 2001 the Board began comprehensive audits of the environmental programs of regulated companies. I believe that pipeline companies are appropriately taking increased ownership for environmental responsibility. There were no incidents last year that resulted in severe degradation of environments in which Canadian pipelines operate.

The Board continues to engage Canadians who have an interest in the Board's activities. The Board held a number of meetings and hearings in local communities and travelled to parts of the country that have less direct access to the Board, including Atlantic Canada. We will continue to build our internal capacity to consult with Canadians, to understand their needs and to remove unnecessary barriers to public participation in Board processes.

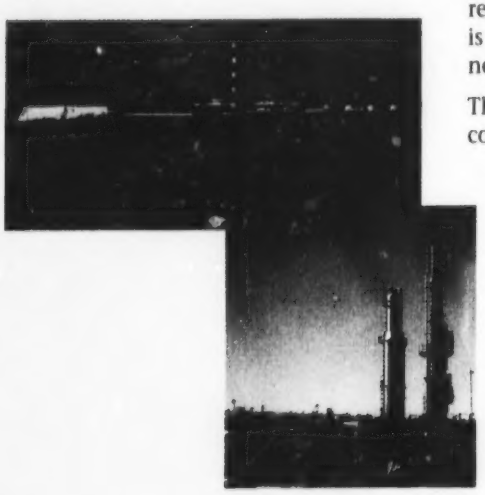
I believe that the results shown in this report demonstrate the NEB's solid progress toward achieving its goals and fulfilling its mandate to act in the public interest of all Canadians.



Kenneth W. Vollman

Operating Context

The National Energy Board (NEB or Board) is responsible for assessing energy projects under its jurisdiction to ensure that projects proceed in a manner that is consistent with the public interest. The Board strives to protect the environment, maximize economic benefits to Canadians, ensure public safety, and respect the rights of landowners. However, the way in which the public interest is manifested continually changes as societal preferences change and knowledge about energy development grows. The Board remains aware of the environment in which it operates and is ready to adjust its regulatory approaches to reflect the needs of Canadians.



The market context for each of the three major energy commodities is unique. Oil is traded on an open world market in which Canadian production and consumption represents a very small portion of the total market. As such, prices paid by Canadian consumers and prices paid to producers closely track world oil market trends.

Natural gas is traded primarily in a North American context in which the Canadian market is intimately connected to the U.S. market. Canada exports about 57 percent of its natural gas production, and these exports make up an important component of U.S. gas supply. Developments in any one geographic area in this integrated market inevitably affect the entire North American market. Although there is some connection to offshore natural gas markets through trade in liquefied natural gas, the development of an international market is still in the seminal stage.

Finally, electric power markets still tend to be somewhat regional, although the degree of interconnection is increasing.

While the market context for each of the above three commodities is unique, there has been a strong trend towards convergence in recent years. This report is written having regard to the context for each of these energy commodities.

Volatile Energy Prices

The year 2001 was marked by remarkable volatility in energy prices, particularly for natural gas and electricity. Natural gas prices throughout North America hit record highs of more than US$10 per Mcf[1] in January, prompting many industry analysts to state that prices would never again be at the US$2 per Mcf level. However, gas prices fell steeply in the spring and by early fall had dropped below US$2 per Mcf. Similarly, electricity prices hit record highs in many jurisdictions early in the year, most notably in California, only to fall in the spring and summer. World oil prices also began the year on a strong note, but weakened by mid-year and fell below US$20 per barrel by year-end.

1 Monies are in Canadian dollars unless otherwise indicated.

The extreme volatility of natural gas prices created an environment of uncertainty, which made planning more difficult for both consumers and producers. For instance, consumers with the ability to switch fuels and potential new consumers (those traditionally served by other fuels) were reluctant to switch to natural gas. Producers set their exploration and development budgets more cautiously. As well, the uncertainty around natural gas prices may have affected planning for the development of northern natural gas supplies.

Although price volatility causes uncertainty, the events of the last year clearly demonstrated that market adjustment mechanisms are strong and healthy in the North American energy sector. In response to the high natural gas prices of last winter, there was substantial switching to fuel oil in the industrial sector. At the same time, ammonia producers shut down production while the petrochemical industry did some switching to other feedstocks. Many electricity users in areas hit by high prices found ways of reducing consumption.

While plant shutdowns may appear to be a severe response to high natural gas prices, they are a natural market reaction. The high prices ensured that available gas supplies were allocated to the end uses which valued them most, while lower value end uses were squeezed out of the market. At the same time, producers responded to the price signals by undertaking record drilling efforts, which resulted in an increase in production. These market adjustments caused natural gas prices to fall to lower levels, although the steepness of the fall was strongly influenced by the slowing economy and milder weather.

It must be noted that governments throughout North America largely declined to intervene in a major way in response to these developments in energy markets and preferred to trust in market mechanisms to make adjustments to the high price environment.

Pipeline Industry Restructuring

There have been some fundamental changes in the structure of the Canadian natural gas pipeline industry. Last year marked the first full year of operation of the Alliance Pipeline Ltd. (Alliance) system and the Vector Pipeline Ltd. (Vector) system. Together they provide an alternative to TransCanada PipeLines Limited's (TransCanada's) system to deliver western Canadian natural gas to central Canadian markets. The Maritimes and Northeast Pipeline Management Ltd. (M&NP) system is in full operation on the East Coast, and 2001 saw the first deliveries of Sable gas to residential and commercial users in New Brunswick. In southern British Columbia, BC Gas Utility Ltd. (BC Gas) has been operating the Southern Crossing Pipeline, which provides an alternative to the Westcoast Energy Inc. (Westcoast) system for delivering Alberta-produced gas to the lower mainland area.

The development of these new pipelines has created greater competition between pipeline systems. At the same time, there has been considerable consolidation in the industry. For example, TransCanada acquired the NOVA Gas Transmission Ltd. (NOVA) system in Alberta in 1998, and Duke Energy Ltd. purchased Westcoast in the fall of 2001. This created a situation that increased competition in many areas of the country, while still leaving considerable market power with the major transporters.

These changes in industry structure were reflected in the number of hearings before the Board on toll and tariff matters. After several years during which most tolling matters were settled between shippers and pipeline companies, a number of issues have recently been brought before the Board for resolution. The Board recognizes that it will be difficult for pipeline companies and shippers to reach unanimous agreement on all matters among themselves in the new competitive environment. Accordingly, the Board is exploring alternatives to traditional public hearings to assist parties in arriving at outcomes in the public interest.

Societal Context

The Board makes decisions on energy projects that directly affect the industry. These decisions also affect energy consumers, landowners along pipeline rights of way, and anyone who lives in the vicinity of a pipeline. In addition, the Board's decisions affect the degree of environmental protection that companies build into their construction projects. In short, Board decisions are taken within a broader public interest context.

The Board is usually only one of many public agencies that have a responsibility to review energy projects and ensure that they proceed in a fashion that is consistent with the public interest. Pipeline projects typically pass through many jurisdictions, each of which will have some interest in ensuring that the project is pursued in an acceptable manner.

The NEB is committed to engaging the various stakeholder groups and to working in a collaborative manner with other regulatory agencies to ensure that energy projects only proceed once all the relevant public interests are considered. In 2001, the Board invested considerable effort into working with other regulatory authorities to define the regulatory process for anticipated applications for a major natural gas pipeline from the North. The Board, in co-operation with the Canadian Environmental Assessment Agency (CEAA), also laid the groundwork for reviewing an application for a new pipeline to cross the Georgia Strait from the state of Washington to Vancouver Island.

Pipeline Security

The events of September 11 heightened awareness of the need to ensure the security of Canada's natural gas and oil pipeline infrastructure. The Board engaged in discussions with pipeline companies about security measures. Most pipelines have been very pro-active in addressing the issue and have, among other things, increased patrols, hired extra guards and tightened security around key installations. Many companies commissioned third party audits of their security systems to identify measures that could be taken to enhance security.

The Board has also been in close contact with the Government of Canada's Office of Critical Infrastructure Protection and Emergency Preparedness to identify facilities that are critical to the successful operation of the nation's pipeline network. The Board has also had meetings with its U.S. counterparts about various approaches to ensuring the integrity of the pipeline grid. The Board is satisfied that Canadian pipeline companies are taking prudent measures to protect the overall security of the pipeline network in Canada.

Regulatory Highlights

During 2001, the Board dealt with applications for new pipeline facilities, new international power lines, tolls and tariff filings, and approvals for exploration and development activity north of the 60th parallel.

The majority of applications processed by the Board were for routine improvements to the operation of existing regulated facilities, short-term export orders, and approvals related to exploration and production activity in frontier areas. The Board also investigated complaints from landowners who had concerns regarding construction and reclamation on their lands by regulated companies. In 2001, the Board received more than 550 applications from regulated companies and 43 complaints from landowners under the *National Energy Board Act* (NEB Act), as well as 63 applications under the *Canada Oil and Gas Operations Act* (COGO Act).

Approvals granted pursuant to the NEB Act include:

- 1 Certificate of Public Convenience and Necessity
- 91 orders and permits pertaining to the construction and operation of pipelines and power lines under Part III of the NEB Act
- 11 orders pertaining to traffic tolls and tariffs under Part IV of the NEB Act
- 335 permits and orders to export gas, crude oil and electricity under Part VI of the NEB Act

A complete list of regulatory decisions issued in 2001 is provided in Appendices B, C and E.

Pipeline Facilities

After a couple of years of considerable expansion in natural gas pipeline infrastructure (Alliance, Vector, M&NP, and BC Gas's Southern Crossing project), only two relatively small gas pipeline applications required hearings during 2001. Parties continue to seek competitive options to increase their flexibility. This led to an application by Petro-Canada to bypass NOVA in Southeast Alberta. In addition, Cartier Pipeline and Company, Limited Partnership (Cartier) sought clarification of a provision in M&NP's tariff in order to facilitate Cartier's pursuit of a link between M&NP's pipeline system and the province of Quebec. The Board also received an application by Georgia Strait Crossing Pipeline Limited (GSX) to link Washington state to Vancouver Island to supply natural gas for power generation.

In February 2001, the Board approved an application from Murphy Oil Company Ltd. to construct 17.2 km of 323.8 mm[1] pipeline from the Chinchaga area of British Columbia to a compressor station in Manning, Alberta. The pipeline will allow natural gas production from major new gas finds in the area to be transported to market.

In December 2001, the Board approved an application allowing Petro-Canada to construct 71 km of mostly 273.1 mm natural gas pipeline from its existing natural gas production properties located in the Medicine Hat area to TransCanada's system near Burstall, Saskatchewan.

1 The Board uses the International System of Units. A metric conversion table with approximate conversion factors is provided on the inside back cover of this report.

The GSX application, filed in April 2001, is scheduled to be heard in 2002. The proponents of the Canadian portion of the Millennium Pipeline Project (referred to in last year's Annual Report) withdrew their applications in 2001. They indicated that the withdrawal was due to unexpected delays in the issuance of regulatory approvals for the U.S. Millennium Pipeline Project, uncertainties with marketing and commercial activities and the need to amend significant portions of the existing applications to reflect changes to the project since the original filings.

In May 2001, the Board approved an application by Enbridge Pipelines Inc. (Enbridge) to construct 123 km of 914 mm oil pipeline over three separate segments located between its terminals in Hardisty, Alberta and Kerrobert, Saskatchewan. This represents the second phase of a multi-phase Terrace Expansion Program agreed upon by industry and Enbridge in 1998. An important aspect of the Terrace Phase II proceeding was Aboriginal participation, and in its decision the Board encouraged the development of meaningful partnerships between Board-regulated companies and Aboriginal people who may be affected by pipeline projects.

Tolls/Tariffs Matters

After several years during which there were no major toll hearings, tolling issues resurfaced in 2001. During 2001, the Board held four hearings related to tolls/tariffs matters - two related to the filing of tolls for Group I companies, one in response to a request for a review and variance of tolls, and one in response to a complaint from shippers. The Board also approved a toll application on the Trans Québec & Maritimes Pipeline Inc. system following a written comment period.

The Board approved TransCanada's applied-for tolls but ruled that some sharing of risk may be appropriate on a prospective basis. The Board indicated that this issue should be dealt with as part of a comprehensive review of TransCanada's tolling methodology and tariff conditions, and directed TransCanada to file a comprehensive tolls and tariffs application by 1 September 2002.

After approving a negotiated tolls settlement for 2001 and 2002 between M&NP and its stakeholders, the Board heard evidence on the proper application and interpretation of M&NP's Lateral Policy. The Board found that a hypothetical 260 km pipeline extending from M&NP's mainline near Fredericton to the New Brunswick/Quebec border would be considered a mainline extension, not a lateral, and that such a pipeline proposal would fall outside of the ambit of the Lateral Policy. Further proceedings will be necessary to establish the tolling methodology and economic feasibility of these facilities.

In the BC Gas review hearing, the Board determined that the toll for service on Westcoast's pipeline system from Kingsvale to Huntingdon, British Columbia should be reduced from the toll established in a hearing held in 1998, but only after the Westcoast system is expanded from Kingsvale south. Until that expansion takes place, the existing toll will remain in effect.

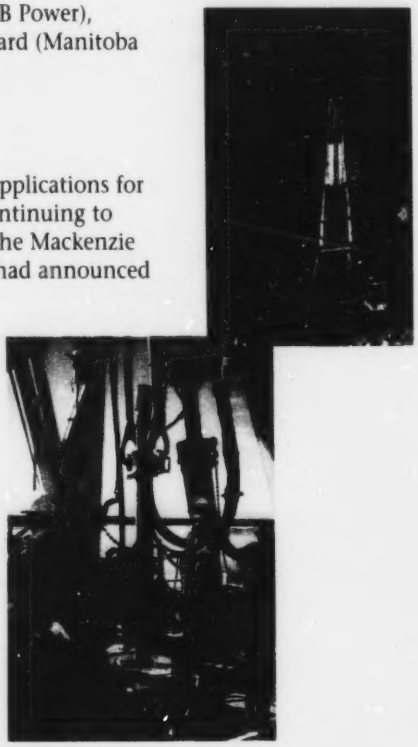
In August 2001, the Board released its decision concerning tolls charged on the Milk River Pipeline. New tolls were established based upon an approved cost of service and revised toll design, following a complaint by a group of producers and shippers. This was the first time since financial regulation of small pipelines on a complaint basis began in 1985 that the Board set tolls for a Group 2[1] pipeline company.

1 Group 1 gas and oil pipelines are the major pipeline companies that are subject to active regulatory oversight by the NEB. Group 2 consists of all other pipeline companies under the NEB's jurisdiction.

Power Line Facilities

As a result of the increase in electricity prices in late 2000 and early 2001 and the introduction of competitive wholesale power markets in the United States, there has been growing interest in strengthening links in the North American electric power grid. During 2001, the Board received three applications for new international power lines (IPLs) and began proceedings on the Sumas Energy 2 Inc. (Sumas) IPL. This contrasts sharply with the previous five years, during which time the Board received only two applications for the construction of IPLs. In February 2001, after learning that the related Sumas application to build a gas-fired electric generation facility in Washington state would be denied, the Board ordered that its proceedings be indefinitely adjourned until further notice[1].

Applications for IPLs from New Brunswick Power Corporation (NB Power), Cedars Rapids Transmission Co. and Manitoba Hydro-Electric Board (Manitoba Hydro) are currently in various stages of review by the Board.



Activity in Frontier Regions

The Board was particularly active in 2001 assessing new facility applications for frontier resources. Producer groups announced that they were continuing to conduct feasibility studies on a major natural gas pipeline from the Mackenzie Delta, while owners of natural gas on the North Slope of Alaska had announced that they were studying the feasibility of bringing gas to southern markets. To date, no applications for pipeline construction have been made. Despite the volatility in gas markets, many industry analysts believe it will still be necessary to develop frontier resources.

Exploration activity in the Mackenzie Delta/Beaufort Sea and the Central Mackenzie areas remained active. Extensive geophysical programs were conducted in 2000 and again in 2001, and exploration well drilling is on the increase. Activity in the Central Mackenzie area remained steady with the continuation of both geophysical programs and exploration well drilling.

Exploration and production activities also occurred in 2001 in the southern Northwest Territories near the hamlet of Fort Liard. Maintaining active programs is feasible now that most of these projects are within economic reach of an existing pipeline system that serves North American markets.

British Columbia continues to have an interest in developing potential energy resources off its west coast and has appointed a scientific panel to ascertain whether these resources can, in fact, be extracted in a way that is scientifically sound and environmentally responsible. A moratorium on exploration off the west coast has been in effect since 1972.

1 As of December 2001, the Washington State Energy Facility Site Evaluation Council was considering a revised application by Sumas. It is, accordingly, possible that a Sumas application will be submitted to the NEB in the future.

Regulatory Co-operation in the North

On 2 March 2001, the chairs of boards and agencies with regulatory and environmental assessment responsibilities in the Mackenzie Valley (12 organizations in total including the NEB) jointly released a document entitled *Guidance on Provision of a Preliminary Information Package for Gas Development in the NWT*. A Preliminary Information Package provided by a proponent will enable the boards and agencies to conduct an evaluation of potential approaches for a co-ordinated review process in a timely manner.

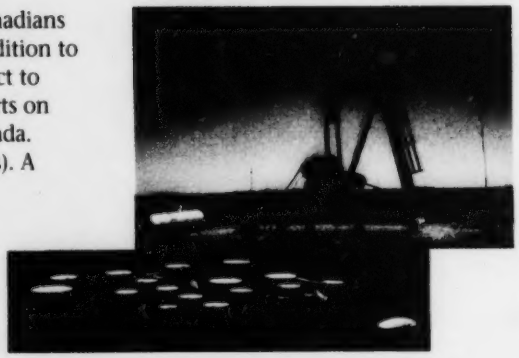
By year-end, these chairs had completed a draft co-operation plan for the co-ordinated review of any proposal for the construction of a northern gas pipeline through the Northwest Territories. The elements of the co-operation plan include:

- a common set of information requirements for both the environmental and regulatory components of the process
- development of appropriate rules of procedure suitable to all boards and agencies
- agreement on sharing of resources including staff, technical and logistical support
- clear linkages between the environmental assessment and regulatory components of the process
- development of a common public registry which will ensure enhanced public access

This blueprint for co-operation will enhance the effectiveness, transparency, and timeliness of the environmental assessment and regulatory decision-making. The draft co-operation plan will be released for public comment prior to its finalization.

The NEB continued to participate in the development of guides to the regulatory processes for oil and gas activities related to exploration, development and production through the Regulatory Road Maps Project. Three guides were released in 2001: *Oil and Gas Approvals in the Northwest Territories - Inuvialuit Settlement Region, Offshore Oil and Gas Approvals in Atlantic Canada - Newfoundland Offshore Area and Offshore Oil and Gas Approvals in Atlantic Canada - Nova Scotia Offshore Area*. Two additional guides are being prepared for specific areas of the Northwest Territories. The Atlantic Canada Petroleum Institute, the Canadian Association of Petroleum Producers (CAPP), Natural Resources Canada and Memorial University of Newfoundland jointly sponsored the offshore guides for Atlantic Canada. CAPP and Indian and Northern Affairs Canada are sponsoring the Northwest Territories guides. These guides can be found electronically at www.oilandgasguides.com.

ENERGY OVERVIEW



As part of its monitoring function, the NEB informs Canadians about energy market trends on an ongoing basis. In addition to fulfilling its statutory reporting requirements with respect to energy exports and imports, the NEB also prepares reports on current and future energy market developments in Canada. These reports are called *Energy Market Assessments* (EMAs). A summary of the EMAs published in 2001 is provided in the Economic Efficiency section of this report.

This overview provides a summary of Canadian energy supply, consumption, production, prices and trade over the last five years, with an emphasis on developments in 2001[1]. Appendices of statistical information have been prepared as a companion document to the Annual Report. The appendices include details on the supply and disposition of crude oil, natural gas and electricity, industry activity, facility certificates, orders and licences for exports, and pipeline financial information (see List of Appendices in Supplement VI).

Energy and the Canadian Economy

In 2001, the energy industry accounted for just over 6 percent of Canada's Gross Domestic Product (GDP) and employed approximately 293,000 people. Energy export revenues accounted for 12 percent of all Canadian exports, up from 11 percent in the previous year. This increase was due to higher commodity prices for crude oil, natural gas, and electricity, particularly in the first half of the year.

Canadian energy production expanded by about 1 percent in 2001, after a 2.5 percent gain in 2000 (Table 1). Petroleum and natural gas together accounted for 75 percent of production. In recent years, higher levels of natural gas and petroleum production, including crude oil and natural gas liquids (NGLs), have been supported by a number of developments: sustained growth in the North American economy, higher oil and gas prices, pipeline expansions and technological improvements. Increasing use of natural gas to produce electricity, particularly in the United States has been another factor underpinning increased Canadian gas production. The rate of growth in energy production moderated as a result of the economic slowdown in Canada and

TABLE 1
Domestic Energy Production by Energy Source
(petajoules)

	1997	1998	1999	2000	2001[a]
Petroleum	5 446	5 627	5 420	5 631	5 640
Natural Gas	5 953	6 125	6 189	6 403	6 531
Hydroelectricity	1 250	1 183	1 232	1 274	1 172
Nuclear	900	780	802	795	859
Coal	1 897	1 651	1 589	1 516	1531
Renewable and Other	554	571	609	615	621
Total	16 000	15 937	15 841	16 234	16 354

(a) Estimates.

Sources: Statistics Canada, NEB

1 Where available, information has been provided using data for the year 2001. In some cases (for example, reserves), 2000 data is provided.

TABLE 2
Domestic Energy Consumption
(petajoules)

	1997	1998	1999	2000	2001[a]
Space Heating	1 973	1 868	1 932	2 020	1 969
Transportation	2 183	2 257	2 313	2 348	2 388
Other Uses[b]	3 493	3 403	3 489	3 747	3 653
Non-Energy[c]	833	812	825	767	783
Electricity Generation[d]	2 142	2 185	2 181	2 185	2 241
Total	10 624	10 525	10 740	11 067	11 034

(a) Estimates.

(b) Includes energy used for space cooling and ventilation as well as a variety of uses in the industrial sector.

(c) Includes energy used for petrochemical feedstocks, asphalt, lubricants, etc.

(d) Includes producer consumption and losses as well as nuclear energy conversion requirements.

Sources: Statistics Canada, NEB

the United States in the second half of 2001.

Hydroelectric generation declined in 2001, while nuclear generation increased. Coal production was up one percent, but remained well below the most recent peak level in 1997, mainly due to declining exports. Renewables and other fuels, which consist mostly of wood, wood waste, and steam, continued to comprise about four percent of energy production.

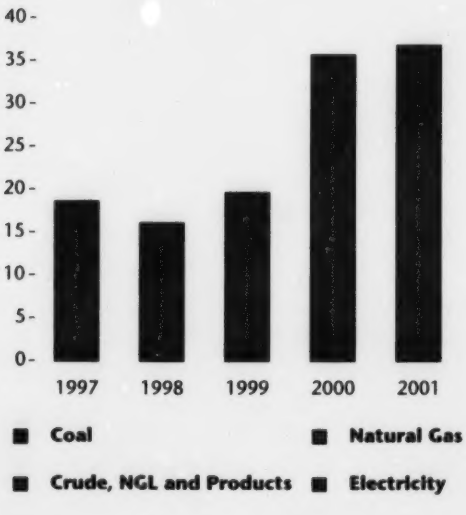
During 1997-2001, total energy production increased on average by 0.5 percent per year, with larger increases in oil and gas partially offset by slower growth or declines in production from other energy sources.

Preliminary estimates indicate that domestic energy demand remained relatively constant in 2001 after annual growth of two to three percent in 1999 and 2000 (Table 2). A number of factors combined to halt the growth in demand: a warmer than normal winter period, slowing economic growth and consumers' response to higher energy prices, particularly oil and natural gas prices.

During 1997-2001, domestic energy consumption increased by four percent, an average of about one percent per year. Growth was strongest in transportation and industrial uses and weakest in space heating and other applications. However, demand increased at a slower pace than the economy during this period (3.3 percent per year as measured by GDP), indicating that the energy intensity of the economy (energy consumed per unit of GDP) continues to decline.

In 2001, total gross export earnings for natural gas, petroleum, electricity and coal were approximately $58.0 billion, up from the previous record-high levels of $54.5 billion in 2000 and $30.4 billion in 1999. Canada's energy trade surplus also registered a third consecutive year of exceptional performance, increasing to a record $36.7 billion (Figure 1). Natural gas accounted for 67 percent of the surplus ($24.6 billion); crude oil, NGL and petroleum products accounted for 24 percent ($8.7 billion); and electricity and coal accounted for 6 percent and 3 percent, respectively.

FIGURE 1
Net Energy Export Revenues
(billion $)



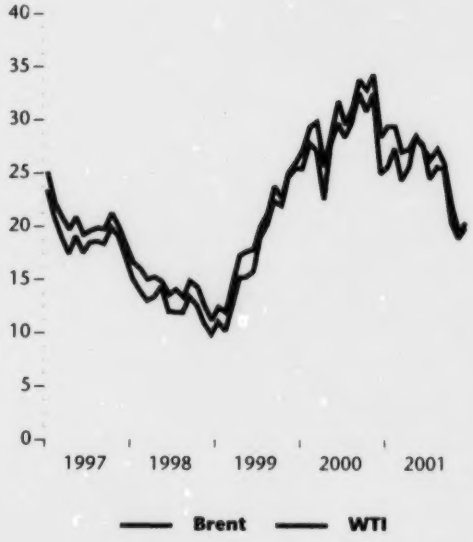
Crude Oil and Natural Gas Liquids

International Markets

The high oil price environment that prevailed in 2000 continued into 2001. West Texas Intermediate (WTI) crude oil traded in the range of US$26 to US$30 per barrel until mid-year, after which declining demand related to weakening world

economies led to a moderation of prices. The post-September fall in petroleum demand further increased the downward pressure on prices, which averaged less than US$21 per barrel for the remainder of the year. For the year as a whole, WTI averaged US$26 per barrel compared with approximately US$30 per barrel in 2000 (Figure 2).

FIGURE 2
WTI and Brent Oil Price
(US$ per barrel)



Unlike 2000, when the Organization of Petroleum Exporting Countries (OPEC) increased production to satisfy growing worldwide demand for oil, 2001 was characterized by a slowing global economy and the incentive for the group to reduce output. In 2000, OPEC introduced a price band mechanism designed to support prices in the range of US$22 to US$28 per barrel, as represented by an OPEC "basket" of seven crude oils. Under this mechanism, if the OPEC basket remained above US$28 per barrel for 20 consecutive days, output would be raised by 500 000 barrels (79 000 cubic metres) per day. If the basket fell below US$22 per barrel for ten days, then production would be reduced by the same amount. To maintain prices in the desired range, OPEC reduced production quotas in February, April and September 2001, with total quota reductions equalling 3.7 million barrels (588 000 cubic metres) per day.

After 11 September, OPEC did not immediately adjust its production levels, preferring instead to wait and assess the impacts on the worldwide supply/demand balance. During this period, WTI dropped to a level of approximately US$17 per barrel. At its meeting in mid-November 2001, OPEC decided that it would reduce its output by 1.5 million barrels (238 000 cubic metres) per day, effective 1 January 2002, but only if non-OPEC countries cut their production by 500 000 barrels (79 000 cubic metres) per day. By year-end, a group of non-OPEC countries including Russia, Norway, Mexico, Oman and Angola agreed to support OPEC, and WTI rose to about US$20 per barrel.

Production and Reserves Replacement

Canadian production of crude oil and equivalent established a record in 2001, with production estimated at an average of nearly 350 000 cubic metres per day, up by two percent from year 2000 levels. This growth reflects increases in synthetic, bitumen and conventional heavy crude oil production from Western Canada and an increase in conventional light production from Eastern Canada (Table 3).

TABLE 3
Canadian Production of Crude Oil and Natural Gas Liquids
(thousand cubic metres per day)

	1997	1998	1999	2000	2001[a]
Conventional Light (East)	2.7	13.5	17.5	23.6	24.3
Conventional Light (West)	132.4	126.9	113.1	108.3	104.7
Synthetic	45.5	48.2	51.5	50.1	54.4
Pentanes Plus	27.3	27.5	27.2	27.3	25.1
Total Light	**207.9**	**216.1**	**209.3**	**209.3**	**208.5**
Conventional Heavy	89.6	86.5	83.0	89.0	90.6
Bitumen	37.6	45.7	42.1	44.4	49.1
Total Heavy	**127.2**	**132.2**	**125.1**	**133.4**	**139.7**
Total Crude Oil and Equivalent	**335.1**	**348.3**	**334.4**	**342.7**	**348.2**
Natural Gas Liquids	93.5	96.3	101.2	99.8	92.2

(a) Estimates.

TABLE 4
Conventional Crude Oil Reserves, Additions and Production – 1996-2000
(million cubic metres)

	1996	1997	1998	1999	2000	Total
Additions[a]	64	86	68	129	78	425
Production	81	81	87	78	79	406
Total Remaining Reserves	643	666	650	702	700	

(a) Hibernia production started in 1997; Terra Nova reserves added in 1999

TABLE 5
Estimates of Established Reserves of Crude Oil and Bitumen at 31 December 2000
(million cubic metres)

Conventional Crude Oil	Initial	Remaining
British Columbia[a]	122.3	27.3
Alberta[b]	2 554.3	291.4
Saskatchewan[c]	754.0	182.0
Manitoba[d]	37.4	3.8
Ontario[e]	14.2	1.9
NWT and Yukon:		
Artic Island and Eastern Arctic Offshore[f]	0.5	0.0
Mainland Territories - Norman Wells	37.5	6.8
Nova Scotia[g] - Cohasset and Panuke	7.0	0.0
Newfoundland[g] - Hibernia and Terra Nova	205.1	186.9
Total	3 732.3	700.1
Crude Bitumen		
Oil Sands - Upgraded Crude[b]	5 590.0	5 220.0
Oil Sands - Bitumen[b]	22 740.0	22 590.0
Total	28 330.0	27 810.0
Total Conventional and Bitumen	32 062.3	28 510.1

(a) British Columbia Ministry of Energy & Mines and NEB common database
(b) Alberta Energy & Utilities Board and NEB common database
(c) Provincial estimate for 31 December 2000
(d) Manitoba Energy and mines to 31 December 1999
(e) Canadian Association of Petroleum Producers
(f) Bent Horn abandoned 1996
(g) Offshore boards

Note: Totals may not add due to rounding

Production at Hibernia, offshore Newfoundland and Labrador, increased by two percent above year 2000 levels, contributing 24 100 cubic metres per day of conventional light crude oil to Canadian supply in 2001.

In Western Canada, crude oil and equivalent supply increased by about one percent in 2001. Conventional light crude oil production declined by about three percent, continuing a long-term trend reflecting the natural decline of the reservoirs. Conventional heavy crude oil production increased by two percent, consistent with a long-term upward trend.

The ongoing development of Canada's oil sands resources resulted in production increases for synthetic crude oil and in situ bitumen, with both up by about 11 percent over the previous year.

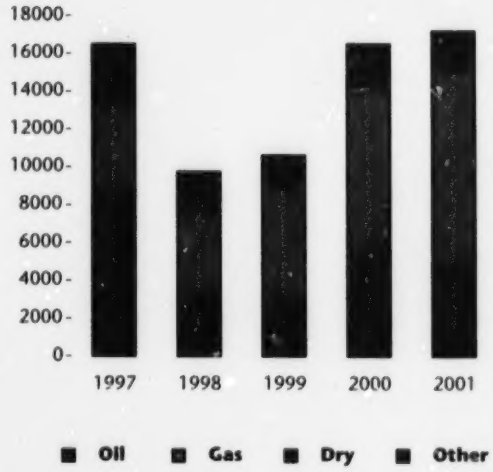
While remaining established reserves are reduced by production each year, new discoveries, extensions to existing pools and revisions to reserves estimates in existing pools add to reserves. From 1996 to 2000, on a cumulative basis, additions to established reserves of conventional light and heavy crude oil replaced 105 percent of production (Table 4). The year 2000 was the third year in the five years where production exceeded additions of conventional crude oil, reflecting the increasing maturity level for conventional oil in the Western Canada Sedimentary Basin (WCSB).

The NEB's estimate of remaining conventional crude oil and crude bitumen reserves at year-end 2000 (the last year for which data is available), is 28.5 billion cubic metres (Table 5). This represents a decline of less than one percent compared with the previous year, reflecting a slight decrease in remaining reserves for both conventional crude and bitumen. It is noteworthy that the remaining reserves of crude bitumen, at 27.8 billion cubic metres, are sufficient to support in situ bitumen and oil sands mining production at current levels for about 700 years.

Estimates of remaining conventional oil reserves in Canada were essentially unchanged at 700 million cubic metres in 2000, as reserves increases essentially equalled production. Decreased reserves in Alberta, offshore Newfoundland and Labrador and in the Northwest Territories were offset by increased reserves, mainly in Saskatchewan. The Saskatchewan increase

can be attributed to the increased oil-related activity levels in 2000. There were no changes to the initial reserves of crude bitumen in 2000; thus remaining reserves decreased by an amount equivalent to bitumen production volumes.

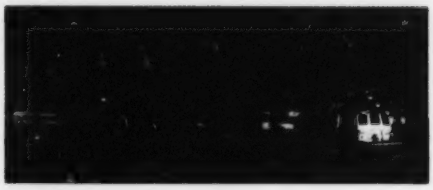
FIGURE 3
Number of Wells Drilled



Upstream Activity

A record 17 983 total wells were drilled in year 2001, exceeding the previous high of 16 507 wells established in year 2000 (Figure 3). This record level of drilling activity was in response to the high natural gas and oil prices that prevailed in the early part of the year. The focus of the drilling was on natural gas, with the number of gas well completions up by 16 percent in 2001 from 2000, and making up 69 percent of all wells completed. Oil well completions for 2001 were 14 percent lower than the previous year, with oil drilling dropping off after the first quarter as oil prices decreased.

Competition for land remained high in 2001 as revenue from land sale bonuses collected by the four western Canadian provinces totalled more than $1.6 billion or 10 percent higher than in 2000. While the average price, at $292 per hectare, was down slightly from $299 per hectare received in 2000, the total land area involved in sales was up 15 percent from 2000, to 5.5 million hectares. In the frontier areas, the majority of land sale activity was concentrated in the Nova Scotia offshore where there is keen interest surrounding the proposed natural gas development at Deep Panuke.



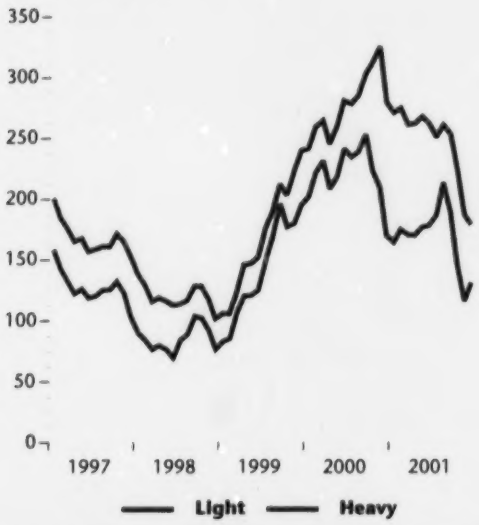
Seismic survey activity also remained strong in 2001, with the number of active crews up eight percent over the previous year. This increase reflects a greater level of activity in the first half of 2001, with second-half levels similar to those of 2000. Seismic activity in Western Canada was focused in the southeast, foothills, and northwest regions of Alberta as well as in the northeast region of British Columbia. Record expenditures of $20 billion for exploration and development of Canadian conventional and frontier areas (excluding oil sands) were made in 2001, up 10 percent from the previous year. Exploration spending continues to be about one-third of the total oil and gas exploration and development expenditure in Canada.

Crude Oil Exports and Imports

Total crude oil exports, including pentanes plus and upgraded bitumen (synthetic crude), are estimated at 218 100 cubic metres per day, a minimal decrease from year 2000. The 2001 total consisted of 35 percent light crude oil and equivalent and 65 percent blended heavy crude oil.

The estimated value of crude oil exports in 2001 was $15.6 billion, compared with $18.9 billion in 2000. While export volumes remained flat, revenues decreased due to lower crude oil prices. In 2001, the estimated average light and heavy crude oil export prices were $39.09 and $26.38 per barrel ($246 and $166 per cubic metre) respectively, compared with $43.65 and $34.15 per barrel ($275 and $215 per cubic metre) in 2000 (Figure 4).

FIGURE 4
Light and Heavy Crude Oil Export Prices
($ per cubic metre)



The U.S. Midwest region continued to be Canada's most important market, followed by Montana and southern PADD IV(Colorado, Wyoming and Utah) (Figure 5). A serious fire at Citgo Petroleum Corporation's Lemont, Illinois refinery resulted in the facility being shut down for repairs. Canadian exporters had to reach other markets, resulting in a wide light to heavy oil price differential in 2001. On a spot basis, tankers embarking from Trans Mountain Pipeline Company Ltd.'s (TMPL) Westridge dock in Vancouver, British Columbia delivered heavy and light crude oil further down the West Coast to California and as far away as Korea.

In 2001, crude oil imports were 148 500 cubic metres per day and represented 53 percent of total refinery feedstock requirements in Canada. Crude oil requirements for the Atlantic region and Quebec were made up of imports with the exception of some volumes of east coast domestic production. Ontario refiners received about 44 percent of their feedstock requirements from foreign sources. This volume

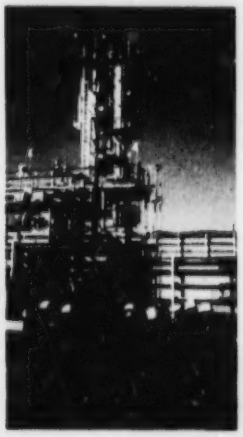
FIGURE 5
Crude Oil and Equivalent Supply and Disposition
(thousand cubic metres per day)

remained unchanged from 2000 as Enbridge's crude oil pipeline from Montreal to Sarnia (Line 9) operated at near capacity. Other regions did not import crude oil during 2001.

Crude oil originating from the North Sea accounted for 57 percent of total imports, down 4 percent compared to year 2000. OPEC countries represented 33 percent of total imports, equalling year 2000 volumes, while imports from other sources accounted for 10 percent, up 4 percent from 2000.

Oil Refining and Gasoline Prices

Canadian refining capacity in 2001 was 322 000 cubic metres per day, with 71 percent of that capacity residing in Eastern Canada.



In 2001, the demand for petroleum products in Canada averaged 258 900 cubic metres per day, a slight decrease from 2000. Refinery production rose marginally to 315 600 cubic per day. Refinery receipts of domestic crude oil averaged 133 000 cubic metres per day, an increase of two percent from 2000.

Despite refiners operating at 90 percent capacity, product inventories, particularly motor gasoline, were lower in 2001. Gasoline prices generally reflect crude oil prices, but other market forces also influence prices, such as inventory levels at refineries and the supply/demand balance for specific refined products. Strong crude oil prices and demand combined with tight supply led to record high wholesale gasoline prices in the second quarter. By year-end 2001, softening Canadian demand and economic slowdown in the United States caused wholesale oil prices to drop to the lowest level in two years.

Main Petroleum Product Exports and Imports

Historically, Canada has been a net exporter of main petroleum products, such as motor gasoline and middle distillates. For 2001, exports of main petroleum products and partially processed oil are estimated at 50 230 cubic metres per day, an increase of 27 percent from 2000. This reflects a significant increase in shipments of motor gasoline and middle distillates as a result of a refinery expansion in Atlantic Canada.

The estimated revenue from main petroleum product exports, including partially processed oil, was $4.3 billion in 2001 - a significant increase from $3.2 billion in 2000. The increase in revenues is a result of strong prices, particularly for motor gasoline, during the first half of 2001. This revenue excludes product exports from crude oil processing agreements for which prices are not assigned.

Imports of main petroleum products in 2001 are estimated at 22 620 cubic metres per day, a 29 percent increase from 2000. Much of the increase in imports of petroleum products was in Atlantic Canada. High electricity prices in the U.S. Northeast resulted in increased demand for heavy fuel oil in New Brunswick to generate electricity. The combined volumes of heavy fuel oil and motor gasoline make up 75 percent of the total imports of main petroleum products.

The United States continued to be the largest buyer of petroleum products, accounting for almost 95 percent of total exports. The U.S. East Coast continued to be the largest market, followed by the Midwest. Exports were also made to Latin America and Europe.

Oil Pipeline Capacity

In 2001, Enbridge operated at approximately 77 percent of total capacity, with the actual throughput averaging 209 600 cubic metres per day. Average utilization in 2001 for Enbridge's

Line 9 was approximately 88 percent. By comparison, year 2000 utilization rates for Enbridge and Line 9 were 77 and 84 percent, respectively. In November and December 2001, Enbridge rationed heavy crude oil volumes, by a small amount, on its heavy crude oil pipeline (Line 4) due to Terrace Phase II construction as well as general system maintenance.

Other export pipelines increased throughputs in 2001 as volumes were backed out of Enbridge. The TMPL system operated at 85 percent of its light capacity during 2001 compared with 83 percent for 2000. Express Pipeline Ltd. increased throughput in 2001, operating at 90 percent of capacity compared with 78 percent in 2000.

Natural Gas Liquids

Natural gas liquids include ethane, propane, and butanes obtained by extraction from natural gas, as well as propane and butanes produced from the crude oil refining processes. Approximately 80 to 85 percent of propane supply and 55 to 60 percent of butanes supply comes from natural gas production, with the remainder from crude oil refinery processes.

The availability of NGLs from natural gas is determined by the volume of gas production, concentration of liquids in the gas stream, extraction plant capacity and efficiency, as well as the economics of extracting liquids. In the North American market, the relationships among the prices of natural gas, crude oil and electricity are critical to NGL production economics.

Production of NGLs from gas plants and refineries in 2001 is estimated at 92 200 cubic metres per day. Ethane production was 37 000 cubic metres per day, propane production was 29 500 cubic metres per day and the production of butanes was 25 700 cubic metres per day. Production of propane, butanes and ethane decreased by 15 percent, 4 percent and 3 percent, respectively, compared with 2000 levels. These reductions reflect producers' decisions to bypass extraction facilities, leaving propane and ethane in the gas stream (particularly during early 2001 when natural gas prices reached unprecedented highs).

Exports of NGLs during 2001 are estimated at 28 000 cubic metres per day, a 20 percent decrease from 2000. Ethane exports were negligible, decreasing from 2000 levels by 99 percent, mainly due to the increase in ethane requirements at the Joffre petrochemical facilities. Propane exports were 22 200 cubic metres per day and butanes exports were 5 800 cubic metres per day. Propane and butane exports decreased by 15 and 14 percent respectively, due primarily to the slowdown in the U.S. economy. The U.S. Midwest continued to be Canada's largest market for propane and butanes, accounting for 70 percent of the total export volume. Smaller amounts were delivered to the U.S. East Coast and West Coast.

The estimated value of exports of NGLs in 2001 is $2.5 billion, down slightly from $2.6 billion in 2000. Although export volumes decreased in 2001, relatively strong prices through to mid-summer contributed to export revenues. In general, domestic NGL prices tracked export prices, indicating that Canadian consumers were able to purchase products at fair market prices.

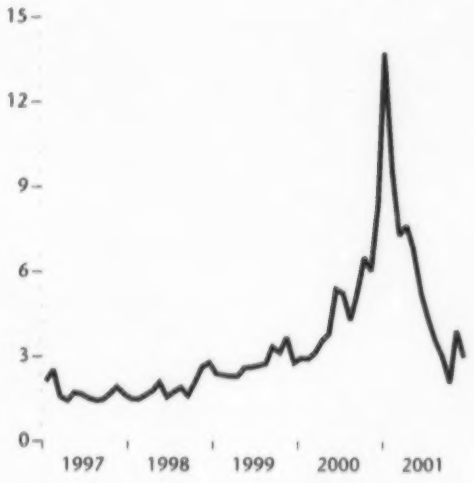
Natural Gas

Natural Gas Markets

The record high natural gas prices experienced in early 2001 continued to fuel a record pace for natural gas drilling by Canadian producers. However, new production from this increased activity

began to emerge at a time when natural gas demand was weakening. Growth in North American natural gas demand stalled in 2001 due to the combined effects of a slowing North American economy, mild weather, and consumers' efforts to conserve or switch fuels to avoid high natural gas prices. As a result, production exceeded demand and storage levels were re-built to near-record levels, causing a steep and steady decline in natural gas prices during the latter part of 2001.

FIGURE 6
Alberta Natural Gas Prices - AECO/NIT
($ per gigajoule)



Alberta spot natural gas prices (Figure 6) have dropped by about 70 percent from the peak prices experienced in the first quarter of the year. Despite this decline, the average Alberta gas price of about $5.90 per gigajoule in 2001 is a significant increase from the average of $4.80 per gigajoule in 2000. The high volatility in the natural gas price has also been a challenge to Canadian producers and consumers, especially in planning of future activity.

While domestic gas consumption was five percent lower in 2001 than in 2000, net export volumes were up three percent. This increase is primarily due to higher volumes exported on the Alliance system (serving the U.S. Midwest) and on the M&NP system (serving the U.S. Northeast) which offset decreased exports at other major export points. These pipelines provided alternative access to export markets and led to overall growth and record demand for Canadian natural gas in 2001.

In Canada, domestic natural gas consumption in 2001 was about five percent lower than a year ago. This was largely due to mild weather, which reduced residential and commercial heating demand, and the response to high prices, which reduced natural gas consumption in the industrial sector. Also, 2001 marked the commencement of natural gas service to the residential and commercial market in New Brunswick; however, this market has been slow to develop and is still limited.

Production

Despite record gas well drilling and completions in Alberta and Saskatchewan in 2001, production increased only marginally. Canadian marketable natural gas production in 2001 totaled 180.7 billion cubic metres, up about 2 percent from 2000 levels. The main sources of new production were the Sable Island offshore project in Nova Scotia and a new gas field at Ladyfern in northeast British Columbia. These sources of incremental production have slightly shifted the distribution of Canadian natural gas supply at the expense of Alberta and Saskatchewan. Alberta now accounts for 79 percent of total Canadian production, down from 81 percent in 2000, and Saskatchewan accounts for 3 percent, down from 4 percent in 2000. British Columbia now contributes almost 14 percent, Nova Scotia 3 percent, Northwest Territories/Yukon 1 percent and Ontario less than 0.5 percent of total Canadian gas production.

Reserves

The NEB's estimate of remaining established reserves of marketable natural gas as at year-end 2000 is 1 622 billion cubic metres. This includes reserves from the East Coast offshore and the Liard Region of the Northwest Territories (Table 6). The volume of remaining established reserves

TABLE 6
Estimates of Established Reserves of Marketable Natural Gas at 31 December 2000
(billion cubic metres)

	Initial	Remaining
British Columbia[a]	607.8	234.3
Alberta[b]	4 063.5	1 210.7
Saskatchewan[c]	200.3	70.0
Ontario[d]	44.3	11.6
NWT and Yukon	25.9	14.4
Nova Scotia - Offshore[c]	85.0	81.4
Total	5 026.8	1 622.4

(a) British Columbia Ministry of Energy & Mines and NEB common database
(b) Alberta Energy & Utilities Board and NEB common database
(c) Provincial estimate for 31 December 2000
(d) Canadian Association of Petroleum Producers

TABLE 7
Natural Gas Reserves, Additions and Production
(billion cubic metres)

	1996	1997	1998	1999	2000	Total
Additions[a]	50	130	119	152	153	604
Production[b]	159	161	165	170	173	828
Total Remaining Reserves	1 721	1 698	1 651	1 629	1 622	

(a) East Coast reserves added in 1997, production started in late 1999
(b) Canadian Association of Petroleum Producers

declined from 1999, albeit by less than one percent, as production continued to outpace reserves additions.

From 1996 to 2000, cumulative additions of marketable gas reserves replaced only 73 percent of total production. Without the Nova Scotia and Liard reserves additions, this would only be 62 percent. Continued and strong concentration by industry on gas exploration resulted in year 2000 additions being the highest in recent years (Table 7). While new discoveries in the Ladyfern area of British Columbia are not fully reflected in the additions for year-end 2000, further drilling in 2001 has provided enhanced delineation of the pool. New discoveries and fewer downward revisions to reserves estimates for existing gas pools resulted in a replacement of 153 billion cubic metres, or 88 percent of natural gas production during 2000. The fact that gas production has been outstripping reserves additions despite very high rates of drilling is an indication that the WCSB is maturing as a producing basin. It will likely be difficult to maintain increases in annual production without ongoing development in the northern and western-most portions of the WCSB, the east coast offshore, and the Mackenzie Delta region.

Natural Gas Exports and Imports

Although there were no major pipelines constructed in 2001, increased throughput on the Alliance and M&NP systems enabled Canadian gas exports and imports to reach new record highs. In 2001, net export volumes were 102.8 billion cubic metres, an increase of 3 percent from 2000 and an increase of 26 percent over the last five years.

The export market continues to grow as net exports now account for 57 percent of total Canadian production (Figure 7). This is up from 56 percent in 2000 and 50 percent five years ago. The increase in 2001 is primarily due to enhanced access to new markets as a result of the start-up and first full year of operation of Alliance and increased volumes from the Sable Island project on the M&NP system. Gross exports in 2001 reached a record 108.7 billion cubic metres due, in part, to record gas volumes being re-imported to Canada. As much as 30 percent of the gas moved on Alliance is imported back into southern Ontario via Vector's pipeline. Imports on Vector accounted for about 4.2 billion cubic metres in 2001, or 72 percent of the 5.8 billion cubic metres of total imports. Prior to this, gas import volumes had been negligible.

The distribution of export sales in 2001 reflects the increased volumes flowing to the Midwest and Northeast on these pipelines and are now as follows: 39 percent to the Midwest, 30 percent to the Northeast, 16 percent to California, 14 percent to the Pacific Northwest, and less than 1 percent to the Mountain Region (Figure 8).

The proportion of Canadian gas exported under short-term orders increased significantly in 2001 to almost 80 percent from 73 percent in 2000. The increase in short-term arrangements since November 2000 is due largely to increased volumes on the Alliance and M&NP systems. Both the volume and average price for exports in 2001 were up significantly from 2000.

Higher export volumes and higher average prices for Canadian gas have translated into increased revenue from natural gas exports. In 2001, the revenue from Canadian natural gas exports rose by 25 percent to a record $26.0 billion, up from $20.7 billion in 2000. Gas imports also rose to a record level of $1.4 billion, resulting in net export revenues of $24.6 billion for the year.

FIGURE 7
Canadian Natural Gas Production and Net Exports
(billion cubic metres)

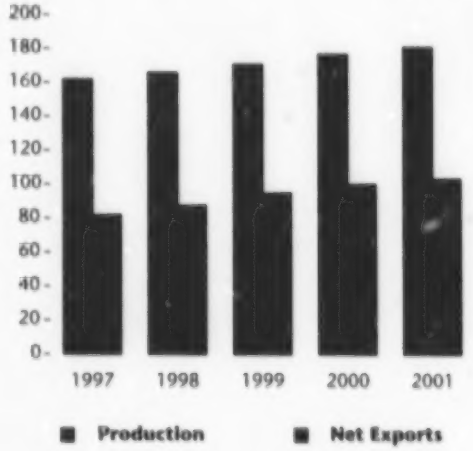
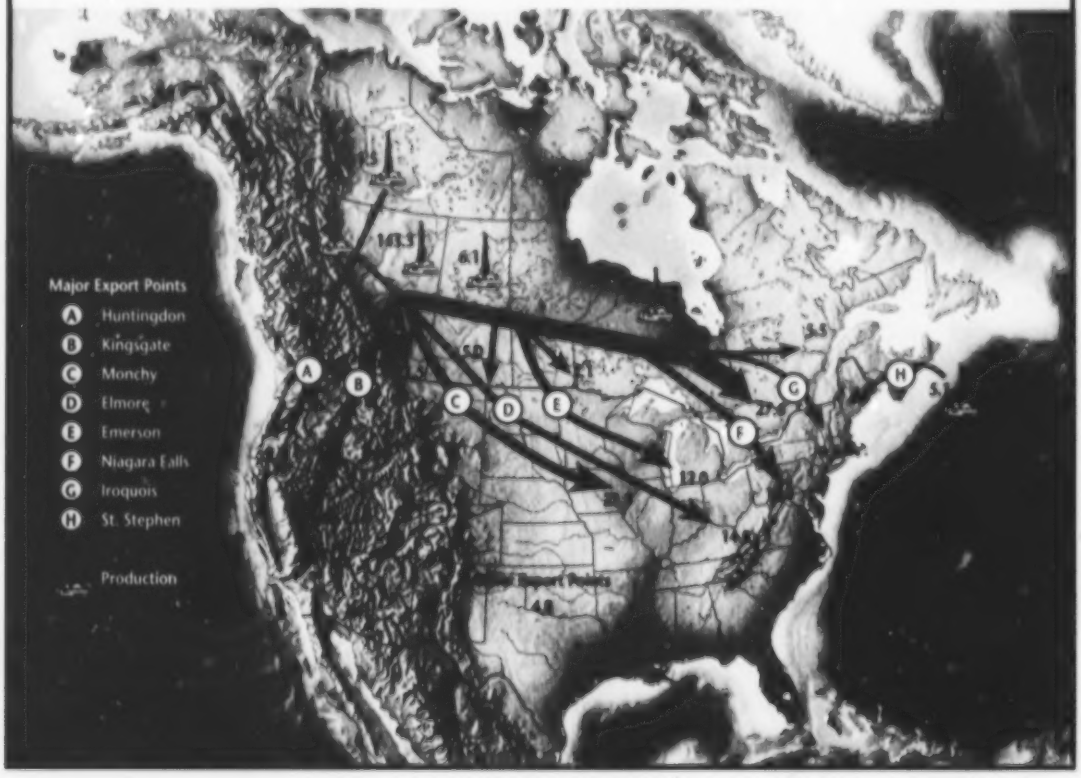


FIGURE 8
Natural Gas Supply and Disposition
(billion cubic metres)



Electricity

With respect to the electricity industry, the Board's regulatory mandate relates primarily to the construction and operation of international power lines and the export of electricity. Challenges are presented by the significant ongoing changes in the structure of the North American electricity industry. The Board must be aware of these changes and their potential impacts, while continuing to perform its legislated regulatory and advisory obligations.

Restructuring and Market Developments

Beginning in the early 1990s, major initiatives have been undertaken to restructure electricity markets in North America. In the traditional market structure, a single utility performed the functions of generation, transmission and distribution of electricity within a defined franchise area, with limited access to other markets. The intent of restructuring is to separate these three functions, and to introduce competition into the generation sector. Also, open access to transmission grids is provided to enable buyers to purchase electricity from the most competitive generation sources.

In 2001, ongoing developments in electricity restructuring took place at an uneven pace across the country. Alberta achieved the most significant step with the first implementation in Canada of retail access to all customers on 1 January 2001. Independent marketers are now allowed to sell electricity in the former service areas of the incumbent utilities. Residential and business consumers can choose the terms and conditions of service from a number of alternative suppliers or a regulated rate option.

After Alberta, Ontario has taken the most significant steps to move towards competitive markets. The wholesale and retail markets were initially scheduled to open in November 2000. In April 2001, the provincial government announced a new target date of May 2002. As in Alberta, when the market opens, consumers will have the choice to buy electricity from competing energy retailers or to continue to receive electricity from the incumbent utilities. While all energy retailers must be licensed by the Ontario Energy Board, the prices they charge for electricity and other services will not be regulated.

In January 2001, New Brunswick issued a *White Paper on Energy* Policy that contains a restructuring plan for the electricity sector. Under this plan, wholesale competition is expected to be introduced by April 2003, and non-utility generation will be allowed. A government-appointed committee will make recommendations on the development of the electricity market, including its structure and market rules, to the provincial government by April 2002. The white paper implies an expanded role for the New Brunswick Public Utilities Board, including monitoring the competitiveness of the future wholesale market.

In November 2001, an energy policy task force established by the Premier of British Columbia made recommendations for a move to fully competitive electricity markets in an interim report entitled, *Strategic Considerations for a New British Columbia Energy Policy*. Some of the recommendations included: restructuring British Columbia Hydro and Power Authority (BC Hydro) into separate operating entities for power generation, transmission and distribution; providing equitable access to the transmission system; and developing a transition mechanism to move consumer prices to market levels. Public input has been invited. It is expected that the final report to the British Columbia Minister of Energy and Mines will be submitted on 15 February 2002.

In December 2001, Nova Scotia announced a plan for the gradual introduction of a competitive electricity market as part of *Nova Scotia's Energy Strategy*. Competition will be introduced through policies that allow utilities and independent generators to access the transmission system. The plan also includes support for the development of renewable electricity such as wind and the development of clean coal technologies.

In 2001, the United States witnessed the continued evolution of the formation of regional transmission organizations (RTOs). The U.S. Federal Energy Regulatory Commission (FERC) Order 2000 initiated the formation of RTOs with the goal of improving competition in bulk power markets and eventually lowering wholesale electricity prices. Consolidating the operations of existing transmission companies under the control of independent regional organizations is expected to reduce transmission costs and facilitate inter-regional trade. Other potential benefits include an increased ability to plan and co-ordinate additions to the U.S. transmission system.

Given the international nature of the transmission grid, FERC has encouraged Canadian participation and, in some situations, has directed the RTOs to indicate how Canadian transmission entities would be represented while respecting Canadian regulatory sovereignty. Some Canadian entities engaging in trade with the United States have indicated interest in joining RTOs or entering into agreements that would provide similar benefits and obligations.

In September 2001, Manitoba signed a co-ordination agreement with the Midwest Independent System Operator and in December 2001, a proposal for BC Hydro's participation was included in an RTO West submission to the FERC. Alberta, as represented by the Alberta Department of Energy, ESBI Alberta Ltd. (the transmission administrator) and the Power Pool of Alberta, is also considering participation in RTO West.

Ontario considered joining RTOs in adjacent U.S. markets and at year-end was assessing the merits of alternative options. Hydro-Québec has expressed initial interest in an east coast RTO with the Maritimes and nearby states. However, in its most recent strategic plan, Hydro-Québec indicated that the system generated by TransÉnergie constitutes the only RTO in the province of Quebec and is working with neighbouring transmission systems to improve interconnections with New England and New York State.

Electricity Production

Electricity production declined by about 3 percent in 2001 (Table 8), mostly due to poor hydraulic conditions (low water levels) which resulted in reduced hydroelectric production. Total production was also affected by lower domestic demand (down an estimated 0.5 percent). The decline in hydroelectric production was partially offset by increases from nuclear and thermal plants, with nuclear production benefiting from the improved utilization of available capacity.

TABLE 8
Electricity Production
(terawatt hours)

	1997	1998	1999	2000	2001[a]
Hydroelectric	345.3	327.7	341.7	353.3	325.0
Nuclear	77.9	67.4	69.3	68.7	74.2
Thermal	131.3	148.8	146.9	160.8	167.0
Total	554.5	543.9	557.9	582.8	566.2

(a) Estimates.

Sources: Statistics Canada, NEB

Exports and Imports

Electricity exports declined to 38.4 terawatt hours from 48.5 terawatt hours in 2000. This was the lowest level of exports since 1993. Hydro-Québec, Manitoba Hydro, British Columbia Power Exchange Commission (a BC Hydro subsidiary known as Powerex), NB Power and Ontario Power

Generation Inc. accounted for 93 percent of electricity exports. Due to low water levels, exports from British Columbia decreased 39 percent from 2000. Quebec, Ontario and New Brunswick also experienced lower export volumes (decreases of 27 percent, 22 percent and 14 percent, respectively). Exports from the hydro-rich provinces of British Columbia and Quebec declined by 9 terawatt hours, and total exports to the United States declined by 10.1 terawatt hours.

A number of factors in the U.S. market also contributed to lower exports in 2001. California began to recover from its electricity crisis as demand growth moderated and new generation came online. Cool temperatures reduced the need for electricity to run air conditioners throughout the United States. Demand decreased further as the U.S. economy went into a recession, and electricity-intensive industries reduced production. Dry weather reduced hydroelectric production, resulting in less electricity available for export.

Despite the decrease in exports, export revenue increased to $4.2 billion. On average, for each megawatt hour of electricity exported, Canadian exporters earned $110 compared with average revenue of $84 per megawatt hour last year, and $47 per megawatt hour over the last five years. Exports into the high-priced California market accounted for much of the increase, as power was being sold to California at an average rate of more than $700 per megawatt hour from January to May 2001. As a result of high energy prices in the western United States, Powerex earned 47 percent of total Canadian electricity export revenues, although accounting for only 15 percent of the export volumes.

Except in Alberta, electricity prices paid by Canadian consumers in 2001 were largely regulated and stable. In Alberta, increased prices were partially offset by provincial rebates to consumers. In Ontario, price increases resulted from the pass-through of higher approved generation and distribution costs.

Imports increased to a record setting 16.1 terawatt hours, up 27 percent and substantially above the 9 terawatt hour annual average from 1996-2000. Imports to British Columbia increased to 2.8 terawatt hours. Due to the poor hydro conditions, British Columbia had to purchase power back from expensive western markets during off-peak periods. Ontario also had higher imports.

Figure 9 shows the interprovincial and international transfers of electricity in 2001.

FIGURE 9
International and Interprovincial Transfers of Electricity[a]
(gigawatt hours)

a) Data for interprovincial transfers of electricity are from 1 November 2000 to 31 October 2001 and are compiled from Statistics Canada's Electric Power Statistics Monthly.

Data for United States imports and exports are for 2001 (excludes exchanges) and are compiled by the NEB.

SAFETY AND ENVIRONMENT

Goal 1: *NEB - regulated facilities are safe and perceived to be safe.*

Goal 2: *NEB - regulated facilities are built and operated in a manner that protects the environment and respects individuals' rights*

A primary aspect of the NEB's purpose is to promote safety and environmental protection. This is reflected in two of the NEB's four corporate goals. While these two goals have separate intents, they are operationally linked and form the cornerstones of the NEB's physical regulation program. Initiatives undertaken by the NEB often result in both increased safety and increased protection of the environment.

The NEB's regulatory responsibilities for public safety, as well as for the protection of the environment, are set out in the *National Energy Board Act* and the *Canada Oil and Gas Operations Act*. The NEB is also required to meet the requirements of the *Canadian Environmental Assessment Act* and the *Mackenzie Valley Resources Management Act* by ensuring that environmental assessments, including follow-up compliance monitoring requirements, are properly conducted for projects under its jurisdiction.

The inherent risks associated with facilities under the NEB's jurisdiction are effectively managed through competent design, construction, operation and maintenance practices. As designer, builder and operator of a facility, a pipeline company has the greatest control and, as such, has the primary responsibility for its facilities. The NEB plays a significant role in safety and environmental protection by ensuring that a regulatory framework that encourages companies to maintain or improve their performance is in place and in line with public expectations.

The Board verifies that any risks associated with the construction and operation of regulated facilities are properly assessed and managed by pipeline companies. The Board does this by:

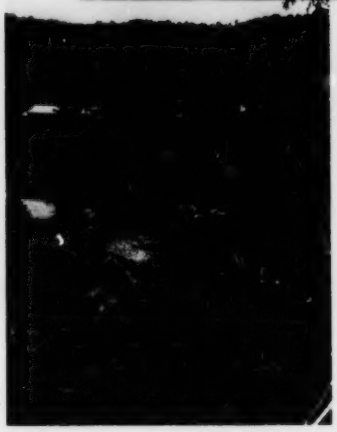
- assessing new facilities applications for associated safety and environmental issues
- ensuring appropriate mitigative measures, conditions, and environmental protection plans are in place before granting project approval
- monitoring construction and operation to verify that regulatory requirements, as well as other standards identified through the application process, have been met and will continue to be maintained
- investigating any failures or incidents that occur, with the intent of preventing similar incidents
- developing regulations and guidelines for the safety and protection of the public, property and the environment

In order to meet its safety and environmental goals, the NEB has put significant effort into the development of its own safety and environmental management system. The integration of the above five activities under the umbrella of the Board's management system is an important aspect of effective risk management.

Linking the management system is accomplished through an initiative called the Environment and Safety Information Management System (ESIMS) project. This project is aimed at developing an electronic information management system database for recording and tracking environmental and safety issues relating to the construction and operation of NEB-regulated facilities.

To provide a better evaluation of the effectiveness of safety programs among NEB-regulated companies, in April 2001, a letter was sent to all companies requesting that specific safety-related data be provided to the Board for the year 2000. Twenty-four companies responded to the request representing more than 75 percent of the total length of federally regulated pipelines. After additional consultation with industry associations, in December 2001 a letter was sent to all companies requesting specific safety-related data for the year 2001. The Board expects to release the results of the indicators in 2002 as a benchmark for future years.

Regulatory Decisions and Environmental Assessments



Regulatory Decisions Related to Safety and Environmental Protection

As part of its regulatory role, the NEB evaluates public interest issues related to its mandate. With respect to safety and environmental protection, these issues include the review of engineering design, the assessment of environmental effects and proposed mitigation, and the consideration of land-related issues. In 2001, there was an example of such a review relating to Westcoast's Pine River Gas Plant and Sulphur Pipeline where notable safety and environmental concerns arose.

In March 2001, after a number of fires on the sulphur pipeline, the Board issued an order directing Westcoast to stop all work on the pipeline except for emergency work, and cease operating the pipeline pending a further order from the Board. The Board decided to hold a public hearing to determine if the sulphur pipeline could be safely operated and if conditions should be imposed on Westcoast in order to ensure its safe operation.

Following a public hearing in April 2001, the Board denied Westcoast permission to reopen the pipeline until all safety issues were resolved. The Board directed Westcoast to develop, in consultation with local residents, a comprehensive action plan to ensure safe operation of the pipeline. Westcoast filed its plan in July 2001. After examining the plan and receiving comments from interested parties, the Board decided to allow Westcoast to reopen the pipeline for operation subject to meeting certain conditions. The pipeline was reopened in December 2001.

Environmental Assessments

The Board ensures that the applications it receives are assessed in compliance with the *Canadian Environmental Assessment Act*. For the majority of projects under the NEB's mandate, an

environmental screening is carried out under that Act. Certain applications require that a Comprehensive Study Report (CSR) assessing environmental issues is completed and approved by the Minister of the Environment before the regulatory process can proceed. In 2001, the NEB was lead responsible authority for two applications that required a CSR. For both of these projects, the Board delegated the preparation of the CSR to the applicants (NB Power and Westcoast). The Board will continue its regulatory assessment of these applications after the respective reports are considered to be complete and submitted to the Minister of the Environment. Where projects do not require an assessment under the *Canadian Environmental Assessment Act*, the Board conducts reviews as part of its mandate under the *National Energy Board Act*.

Under the *Canadian Environmental Assessment Act*, a Responsible Authority may request the Minister of the Environment to refer the project to a review panel. In September 2001, following a request from the NEB, a joint panel was established to review the Georgia Strait Crossing application. This project is the Canadian component of a proposal for a new international pipeline to transport natural gas from Sumas, Washington to Duncan, British Columbia, on Vancouver Island. Fisheries and Oceans Canada is the other Responsible Authority. The joint panel will apply both the *Canadian Environmental Assessment Act* and the *National Energy Board Act* to its review of the project. It will make recommendations to the Minister of the Environment on environmental assessment matters and will make decisions concerning the proposed project on all other public interest matters, including safety and environmental matters, under the *National Energy Board Act*.

Compliance Monitoring

NEB field inspection officers monitor the construction of a pipeline to verify compliance with:

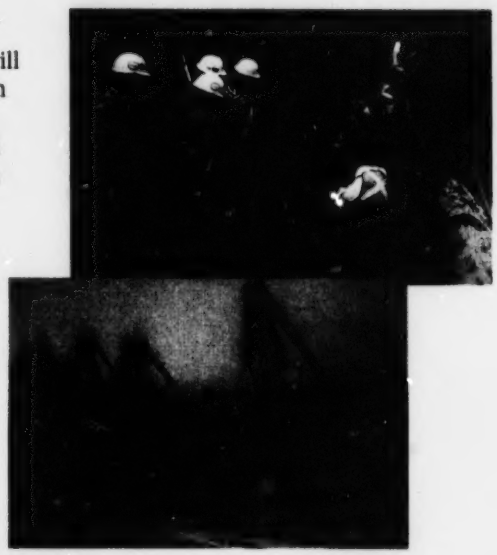
- the conditions of the project approval
- the requirements set out in the NEB's *Onshore Pipeline Regulations, 1999* (OPR-99), relevant codes, and the pipeline company's construction safety manual
- the commitments set out in the pipeline company's environmental protection plan and its application

Once a pipeline is in operation, NEB inspection officers conduct safety inspections of pipeline facilities, such as pump or compressor stations, on a periodic basis depending on the risk posed by the operating facility. Safety inspections are conducted to determine compliance with the requirements of NEB regulations and the *Canada Labour Code, Part II*. The NEB also conducts inspections along existing pipeline systems to identify whether third party excavation work is being completed in compliance with the *National Energy Board Pipeline Crossing Regulations*. In addition, NEB inspectors conduct environmental monitoring inspections of operating pipelines to evaluate the success of construction reclamation and to verify that the environment is being properly protected.

In the frontier lands[1], the NEB conducts inspections related to geophysical and drilling programs and production operations to verify compliance with the approved program and relevant regulations. Occupational safety and health matters are also addressed during these inspections.

1 Frontier lands, in simple terms, refer to lands that are situated in the Northwest Territories, Nunavut or Sable Island, or submarine areas, not within a province, in the internal waters of Canada, the territorial sea of Canada or the continental shelf of Canada.

The NEB supports a co-operative approach to compliance, working with pipeline companies to ensure that environmental commitments and safety requirements are met. As part of this approach, the NEB is placing increased emphasis on appropriate safety and environmental training for construction personnel. Often, NEB field inspectors will conduct presentations for construction crews on safety and environmental requirements and the NEB's responsibility to monitor compliance.



Non-compliance with NEB requirements is generally handled in one of two ways: an NEB inspection officer will receive an assurance of voluntary compliance (AVC) from a pipeline company for minor areas of non-compliance that cannot be corrected immediately, or NEB inspection officers will issue a field order when they find a situation that could jeopardize safety or the environment. These situations must be corrected immediately by the company. In 2001, the NEB received 139 AVCs and issued 2 field orders for non-compliant activities. This is similar to 2000 levels.

The NEB tracks compliance with conditions issued on facility approvals using its ESIMS. This system allows conditions to be tracked for compliance and for effectiveness (that is, whether the condition resulted in achievement of the desired result). To date, ESIMS has been used to track more than 800 conditions on over 185 pipeline construction projects. The effectiveness of conditions related to the construction of a project and imposed to protect the environment (environmental conditions) has recently been identified as a performance indicator measuring the achievement of the NEB's Goal 2. In 2001, information received by the Board indicated that 56 percent of environmental conditions achieved their desired end result while 4 percent did not. The remaining 39 percent are under review. The NEB is using this information to improve the clarity and effectiveness of conditions that it places on facility approvals.

One such improvement implemented in 2001 involved the inclusion of a standard condition that requires companies to self-report on compliance on all NEB section 52 certificates and section 58 orders. This has increased the NEB's ability to monitor compliance and encourages companies to develop their own compliance monitoring systems.

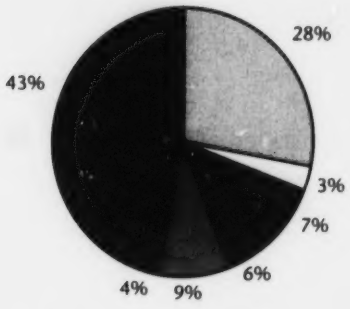
Once the construction of a pipeline or facility is complete, but before the new facility can be put into operation, pipeline companies must apply to the NEB for permission to open the facility. When the Board is satisfied that the pipeline is safe to operate, it will grant approval to open the facility. During 2001, the Board issued 24 orders granting leave to open pipelines, pipeline sections or other facilities. This number represents an 85 percent decrease from the previous year and reflects the decrease in the number of facilities built during the year.

Management System Audits

With the release of the OPR-99, the Board continued its progression towards goal-oriented regulation. In the goal-oriented approach, the regulations identify the goals that must be attained by pipeline companies, with the companies selecting the best methods to meet these goals. The OPR-99 goals relate to the technical, safety and environmental requirements for all stages of a pipeline's life cycle. Each company must be prepared to demonstrate the adequacy and effectiveness of the methods chosen and employed.

To ensure compliance with the OPR-99, the Board used a risk-based methodology to select companies for audit of their systems, programs, procedures, specifications, records and documentation, and to perform inspections during the construction and operation of pipelines and facilities.

FIGURE 10
Causes of Incidents in 2001



Three audits were conducted in early 2001 with a scope that included emergency response, continuing education and pipeline integrity programs. The audit process included a pre-audit meeting with the company, documentation review, field verification, and preparation of an audit report. The expected elements were also provided to the company prior to the audit in order to assist them in their preparation for the audit. In response to the audit findings, companies were required to submit a corrective action plan to the Board. Three more audits were conducted in the second half of 2001 and incorporated additional aspects of the OPR-99, including environmental matters.

In early 2002, the Board will review its audit program to identify improvements, including the development of an overall audit strategy that will incorporate various risk elements in establishing an appropriate audit cycle time, as well as a risk prioritization tool to identify specific companies for audit.

Incident Investigation

The NEB is continually looking for ways to improve safety and requires pipeline companies to provide information on pipeline safety performance by immediately reporting incidents on their systems.

Even minor incidents can provide indications of the condition of a pipeline or of required improvement to safety programs. The NEB investigates all reported incidents to determine if any trends are evident and to take action, if necessary, to prevent similar occurrences in the future. In general, the NEB conducts on-site investigations only for incidents that result in death, serious injury or a significant release of hydrocarbons. Figure 10 represents the causes determined for incidents that occurred in 2001.

An accident resulting in a fatality occurred on a seismic program in the Northwest Territories on 17 March 2001. The NEB investigated the accident under the *Canada Oil and Gas Operations Act* and under the *Canada Labour Code* on behalf of Human Resources Development Canada. In October 2001, the NEB issued a Safety Advisory to operators identifying the hazard and advising them to modify either their equipment or procedures to further reduce the hazard to their employees. A report was submitted by the NEB to Human Resources Development Canada to further assist in its independent investigation.

Sixty-eight incidents were reported under the OPR-99 in 2001. While the number of reported incidents in 2001 is significantly higher than the 47 reported the previous year, it is still somewhat lower than the seven-year average of 77 incidents (Figure 11). The rise in incidents is attributed to an improvement in incident reporting by companies regulated by the Board. In 2001, four incidents resulted in injuries to pipeline workers, with only one of those directly related to construction. This number is down slightly from the year 2000 total of five injuries, including one directly related to construction.

Of the 68 incidents reported in 2001, over one-half occurred in controlled areas such as compressor stations or gas plants. Typically, the public is not exposed to the safety risks

associated with incidents in these types of controlled areas. Twenty incidents occurred at compressor or pump stations, 18 at gas plants, and the remainder occurred along the pipeline right of way.

The NEB has a safety target of zero ruptures on the pipelines it regulates. In 2001, there were two ruptures on NEB-regulated pipelines, both occurring on pipelines owned and operated by Enbridge.

The first rupture occurred on 17 January 2001 on Enbridge's heavy crude oil line downstream of Hardisty, Alberta. Approximately 3800 cubic metres of crude oil were released into an ice-covered slough. A final investigative report by the Transportation Safety Board into the cause of this rupture is expected early in 2002.

On 29 September 2001, a rupture occurred on an Enbridge crude oil pipeline near Binbrook, Ontario, south of Hamilton. Approximately 95 cubic metres of crude oil was released onto a soybean field. The cause of this incident is currently under investigation.

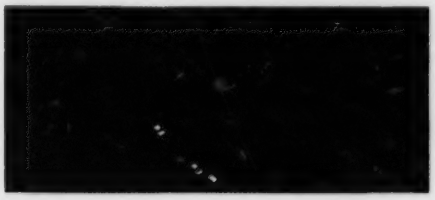
FIGURE 11
Pipeline Incidents and Ruptures 1994 to 2001

The NEB has the responsibility to verify that all companies under its jurisdiction have adequate emergency response plans to mitigate any negative effects on personnel safety, public health or the environment resulting from oil spills or natural gas leaks. Response plans are examined to ensure that appropriate procedures are in place. In addition, the NEB encourages and participates in emergency response exercises sponsored by pipeline companies.

The NEB's primary role during an emergency is to monitor the pipeline company's response, ensuring that all reasonable actions are being taken to protect public safety and the environment. The NEB uses an information tracking system to verify that the company fulfills its remediation responsibilities regarding sites that have been affected by spills or releases. In 2001, 46 spills and releases were reported, up from 32 reported the previous year. Of these 46 spills, 4 were termed 'significant'.

In the frontier region, hazardous occurrences, as defined by the *Oil and Gas Occupational Safety and Health Regulations*, increased from 64 in 2000 to 79 in 2001. Most of this increase was related to equipment damage; however, there were no disabling injuries or major spills associated with these incidents. Disabling injuries decreased from 5.3 per million hours worked in 2000 to 3.1 per million hours worked in 2001.

Development of Regulations and Guidelines



A key activity in promoting safety and environmental protection is the development of regulations. The NEB is continuing the move toward a goal-oriented approach to its regulations, to promote increased industry responsibility, allow for flexibility and efficiency, and provide opportunities to adopt improved operational and safety techniques in a more timely manner. The NEB's goal-oriented regulations rely heavily on consensus standards, such as those developed by the Canadian Standards Association, and place increased emphasis on risk

assessment and management systems. The NEB has published Guidance Notes, which describe what it considers acceptable practices, to provide clarity, practical advice and suggestions to facilitate compliance with the regulations.

The NEB is currently developing two new goal-oriented regulations. The first deals with the design, construction, operation and abandonment of federally regulated gas processing plants. The second deals with damage prevention for buried pipelines. These two regulations are anticipated to come into effect in 2002 and 2004, respectively.

In preparation for the development of new regulations that will govern pipeline safety, the Board released the results of a survey in February 2001 entitled *National Energy Board Damage Prevention Regulations Survey*. Over 100 respondents representing interested companies, groups and individuals provided valuable information regarding issues related to this initiative. A copy of this report can be found on the NEB Internet site.

The NEB is also active in developing and maintaining regulations regarding exploration and development activities under the *Canada Oil and Gas Operations Act*. These regulations, developed in co-operation with Natural Resources Canada, the Canada-Newfoundland Offshore Petroleum Board, the Canada-Nova Scotia Offshore Petroleum Board, Nova Scotia Department of Natural Resources and the Newfoundland and Labrador Department of Mines and Energy, ensure common regulatory approaches for activities in the offshore regions, the Northwest Territories and Nunavut. To this end, consultations were continued in 2001 to amend many of the regulations and guidelines under the *Canada Oil and Gas Operations Act* and mirror regulations under the Accord Implementation Acts.

The NEB has provided advice to Human Resources Development Canada for the update of the *Oil and Gas Occupational Safety and Health Regulations* under the *Canada Labour Code, Part II*. In August 2001, an amendment came into force under the *Canada Occupational Safety and Health Regulations*. The amendment resulted in increased clarity of federal regulatory authority over pressure vessel and pressure piping in the oil and gas pipeline sector.

The Board participates with industry, government and stakeholder groups in a number of initiatives to develop consensus-based standards, best practices, and common approaches to safety and environmental issues. An example of the NEB's participation is in the revision of the standard for oil and gas pipeline systems, CSA Z662, scheduled for issue in 2003.

Research and Development

The NEB acts as the secretary for the Environmental Studies Research Funds (ESRF) management board, which provides funding for environmental and social projects regarding petroleum exploration, development and production activities on frontier lands.

In 2001, the ESRF management board approved eight new studies and continued to provide funding for *Updating of the CSA Offshore Structures* and the development of an abstract of existing studies and reports related to oil and natural gas development in the North. The ESRF management board also awarded a contract for a study on *The Effects of Seismic Energy on Snow Crab* for which work will commence in 2002. Two previous reports were finalized and released. As well, in 2001, ESRF established a presence on the Internet at www.esrfunds.org.

Economic Efficiency

The Board's third corporate goal is to ensure that Canadians derive the benefits of economic efficiency. There are three main ways in which the Board has an economic impact:

- through the decisions it renders
- through the energy market information it provides to Canadians
- through the efficiency of its regulatory processes

In addition, the Board must manage its own expenditures efficiently.

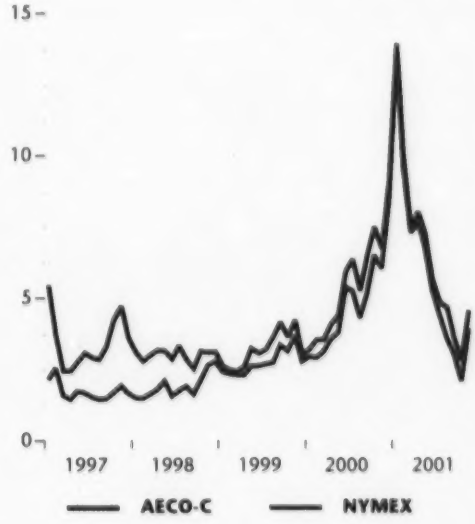
Goal 3: *Canadians derive the benefits of economic efficiency.*

Impact of NEB Decisions

The Board strives to promote, through its decisions, the development of an efficient natural gas and oil pipeline infrastructure that meets the needs of its users. An efficient infrastructure requires that there is an appropriate level of capacity to meet both upstream and downstream needs, that shippers have adequate service options, and that pipeline companies earn an appropriate return on their investments.

A good market measure of the adequacy of pipeline capacity can be obtained by examining the prices between key market hubs. In the natural gas market, two of the most important hubs in North America are the AECO "C" Hub in Alberta and the Henry Hub in Louisiana. Figure 12 illustrates that prices associated with the two supply hubs have been closely connected since late 1998, indicating that there has been adequate capacity between the WCSB and eastern markets.

FIGURE 12
NYMEX vs. AECO "C" Natural Gas Price
($ per gigajoule)



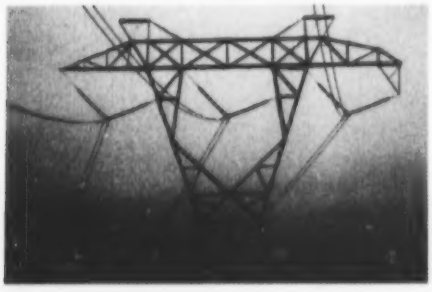
For a brief period in January 2001, prices at the Sumas hub in Washington State significantly exceeded the prices at AECO "C". This pricing phenomenon may be related to pipeline capacity serving the lower mainland area in British Columbia and the U.S. Pacific Northwest. It may also be related to heavy demand at the time for Canadian gas to fuel electricity generation in the California market. The Board notes that shippers signed long-term contracts last spring in support of a proposed 5.7 million cubic metres per day expansion of the Westcoast system which would increase capacity between the producing basin and the lower mainland.

Another measure of the efficiency of the pipeline transportation sector is the number of service options available to shippers and gas buyers. Producers in the

WCSB have an additional transportation alternative since the start-up of the Alliance pipeline system, which provides a different service package than TransCanada. At the same time, TransCanada has been introducing new service options in recent years, including services such as enhanced capacity release and parking and loans services. Gas buyers in Ontario and Quebec similarly have more options since the start-up of the Vector pipeline system, which connects Alliance and other U.S. pipelines to southern Ontario. A market hub is developing at Dawn, Ontario that allows many eastern gas buyers to simply purchase gas at the hub and elect not to hold transportation capacity on long-distance pipeline systems.

On the oil transportation side, the Board approved the Enbridge Terrace Phase II Expansion Program in the spring of 2001. The expansion will increase heavy oil throughput capacity, thus averting potential capacity constraints that could have resulted in the shut-in of heavy oil reserves.

In 1994, the Board made a decision on a generic return on equity formula, which was intended to apply to most of the large pipelines under Board jurisdiction. Shortly thereafter, there were a number of negotiated settlements between pipeline companies and their shippers, pursuant to which they mutually agreed upon tolls and tariffs. As these were multi-year agreements, the Board had very few hearings on tolling matters for several years. The Board's generic formula is embedded in a number of the negotiated settlements, although some settlements include alternative means of determining the appropriate return on equity.



There are no direct measures of the appropriateness of the returns being earned by pipelines. However, the fact that most pipelines and shippers accepted the return on equity determined by the generic formula indicates that the formula worked well for many years. The Board notes, however, that there have been many recent changes in the structure of the pipeline transportation sector. In this changed environment, it may be more difficult for the pipelines to reach unanimous agreements with their shippers. Indications of this surfaced in 2001, as the Board held four hearings on toll matters. The Board also received an application from TransCanada requesting that it review TransCanada's return on capital employed.

There has been considerable interest in strengthening the links in the North American electric power grid since the United States has been opening up its wholesale electric power markets. In 2001, the Board received three applications for international power line facilities.

Energy Market Information

The Board has a responsibility to maintain a thorough understanding of energy markets in order to appreciate fully the impacts of the decisions it makes on market participants. The Board monitors the gas market to ensure that Canadian gas buyers have access to Canadian natural gas on similar terms and conditions as are available to U.S. buyers. Finally, the Board believes that Canadians should be informed about the operation of Canadian energy markets. For all of these reasons, the Board monitors energy markets and reports on market developments on an ongoing basis.

Fair Market Access to Natural Gas, Oil and Electricity

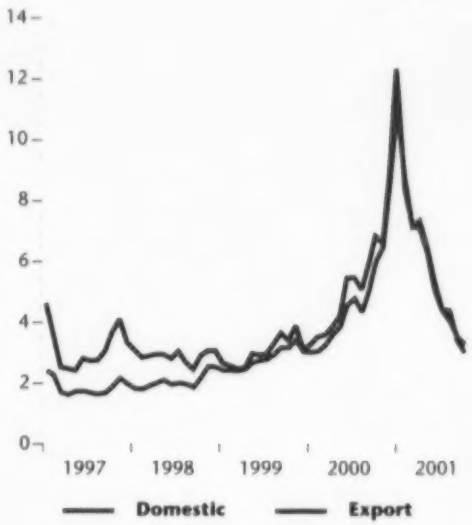
The Board monitors the domestic price of Canadian-produced natural gas versus the price of natural gas exports. In an open competitive market, one would expect that the commodity price paid for natural gas, for example at the Alberta border, would be essentially the same for all gas

buyers, whether domestic or foreign. Figure 13 shows that the prices paid by domestic and export buyers were, in fact, very close throughout 2001.

With respect to crude oil, a similar relationship between domestic and export prices exists, which again demonstrates that Canadians have access to Canadian crude oil on price terms at least as favourable as export customers (Figure 14).

The Board also monitors electricity markets, although this is somewhat more difficult due to the lack of functioning open markets in many parts of the country.

FIGURE 13
Eastern Export and Domestic Gas Price at the Alberta Border
($ per gigajoule)



Energy Market Assessments

As part of its energy monitoring activities, the Board issues EMA reports that provide analyses of issues related to the major energy commodities on either an individual or integrated basis. The Board augments its analyses by consulting parties with an interest in the respective subject areas. In 2001, the Board issued two EMA reports addressing the areas of electricity and natural gas liquids and a technical report on heavy oil resources. Every three to five years the Board also issues a long-term study of Canadian energy supply and demand. The most recent study was initiated in early 2001 and will be published in early 2003.

The *Canadian Electricity Trends and Issues* EMA was released in May 2001. This EMA examined electricity demand and generation in Canada and provided a province-by-province analysis of trade, regulatory developments and electricity prices. The report noted that even with rising electricity demand in recent years, provincial electricity markets seemed to be adequately supplied. The report also noted that consumer prices were generally stable over the past several years in all provinces except Alberta, where higher prices in 2000 and 2001 resulted from a somewhat tighter supply situation. While Canadian electricity generation is predominantly hydro-based and is generally cost-competitive within North America, many new generation projects are expected to be gas-fired. Regarding deregulation, the EMA notes that restructuring of electricity markets is proceeding along different paths across the country reflecting decisions made by each province.

The second EMA, entitled *North American Natural Gas Liquids Pricing and Convergence*, also released in May 2001, provided a background on NGL pricing and the impact of energy price convergence. This

FIGURE 14
Light Crude Oil Export and Posted Price at Edmonton
($ per cubic metre)

EMA notes that the high natural gas prices of late 2000 to early 2001 impacted not only NGL prices, but also how liquids were valued in the market place. Depending on the relative prices of oil, gas, and NGLs, producers with discretionary volumes can decide whether to extract liquids or leave them in the gas stream.

In August 2001, the Board released a technical report entitled *Conventional Heavy Oil Resources of the Western Canada Sedimentary Basin*. This report concluded that the estimate of heavy oil resources of the WCSB had been understated in the past, and indicated an increase of 20 percent in the estimate of oil-in-place volumes. The study further concluded that with the enhancement of present day technologies and the application of future technologies, 21 percent of currently discovered resources and 12 percent of undiscovered resources would be ultimately recoverable, adding 95 million cubic metres to estimates of ultimately recoverable volumes.

Natural Gas and Electricity Prices - Frequently Asked Questions (FAQs)

In order to provide the public with further information and explanation on developments in natural gas and electricity markets, the Board is maintaining its FAQ section, initiated in 2000, on its Internet site. The FAQ section addresses concerns regarding pricing, the underlying supply and demand forces at work in the marketplace, and the Board's role in approving natural gas exports. The electricity questions address the regulation of the industry, price formation, restructuring of electricity markets, and the Board's role in approving electricity exports.

Ongoing Monitoring

The Board compiles several statistical reports related to its regulatory role in the oil, gas and electricity industries. Data is compiled on a monthly basis and annual summaries, as far back as 1985, are available. Subject areas include: natural gas exports, imports, volumes and prices; exports of propane and butane; crude oil and petroleum product exports; light and heavy crude oil export prices; crude oil supply and disposition; and imports and exports of electricity. The reports are available on the Board's Internet site.

Regulatory Efficiency

In order to increase its regulatory efficiency, the NEB not only strives to improve the efficiency of its existing processes, but also endeavours to prepare effectively for major future regulatory events.

Applications Processing

Revisions to the Board's Streamlining Order in late 2000 eliminated the need for companies to apply for many of the routine facilities projects that take place on company property, but do not have any environmental, safety or third party concerns. This reduced the number of small facilities applications that the Board processed in 2001 relative to the number it would have had to process had the Streamlining Order not been revised. The applications that were filed tended to be complex in nature and required longer processing times.

Mediation Practice Direction

In August 2001, the Board adopted a Mediation Practice Direction that established a voluntary mediation process for the resolution of landowner objections during detailed route hearings. This process provides an alternative method for landowners and companies to resolve disputes over the detailed routes of pipelines and power lines.

Surveillance Reporting

In early 2001, the Board initiated a process to examine the appropriate level of surveillance reporting under Part XI of its *Guidelines for Filing Requirements* (GFR). On 6 December 2001, the Board announced that, based on comments received from interested parties it had decided to amend its GFR for surveillance reporting.

Companies operating under the cost of service method of regulation will continue to be required to submit quarterly reports, but will now be required to include monthly throughput information. Further, these companies will also be required to submit interim reports while on interim tolls.

Companies regulated under an incentive type settlement will be allowed to negotiate filing requirements other than those specified in the GFRs with their shippers. However, the filings must:

- include certain base level information
- be filed at least on an annual basis, except monthly throughput information that must be provided each quarter
- not be suspended during periods of interim tolls

NEB's Expenditures

Table 9 shows the NEB's expenditure and staff levels for the last six fiscal years. Since 1991, up to 90 percent of the NEB's operating costs have been recovered from the regulated community. Additional information on budgets and plans may be found in the NEB 2001-02 Main Estimates, Part II and the 2001-02 Report on Plans and Priorities, both of which are available on the NEB's Internet site.

TABLE 9
Historical Expenditures and Staffing

Fiscal Year (April 1 to March 31)	Expenditures $000	Full-time Equivalents
1996 - 1997	26 855	272
1997 - 1998	28 048	264
1998 - 1999	53 187[a]	277
1999 - 2000	26 900	286
2000 - 2001	26 216	289
2001 - 2002	27 967[b]	287

(a) In 1998 the NEB made payments of $22.2 million for out-of-court settlements with the energy industry relating to relocation costs of the NEB from Ottawa to Calgary.

(b) Estimates.

PUBLIC ENGAGEMENT

Goal 4: *The NEB meets the evolving needs of the public to engage in NEB matters.*

This past year was a year of significant innovation with respect to Goal 4. Throughout its 42-year history, the Board has provided opportunities for the public to participate in the regulatory decision-making process. In recent years, the scope of these opportunities has grown to include broad consultation on new processes, an increased number of meetings and hearings in affected communities, and a wider range of tools for the public to access information about the NEB's operations.

In addition to the activities discussed below, the NEB refined its desired end state for public engagement. This resulted in defining three objectives in the area of public engagement. These objectives are:

- build internal capacity
- understand public engagement needs
- remove barriers to participation

The NEB's activities will be directed towards achieving these objectives in the coming years.

Building Internal Capacity

To be successful, the Board will consistently exhibit a consultative culture with respect to all of its internal and external activities. As well, the NEB needs to have a variety of public engagement tools at its disposal to suit specific situations. During the year, the Board undertook a number of important initiatives to build its internal capacity for public engagement. In addition to staff training in public engagement techniques, the Board initiated project work to define Public Engagement Principles and to build our capacity in Alternative Dispute Resolution.

Understanding Public Engagement Needs

To carry out its mandate appropriately, the NEB needs to understand the needs of the people and groups interested in NEB matters. This includes the needs of participants in specific regulatory proceedings, as well as the needs of groups interested in energy development. In particular, the NEB is interested in becoming more aware of the engagement needs of landowners and Aboriginals. To be successful, the Board must understand the varied needs of the public to engage in NEB matters and to be able to effectively and appropriately meet these needs while ensuring the integrity of the decision making processes.

Board Members' Activities

Equally important to being prepared and accessible for regulatory proceedings is the NEB's need to be well informed of regional perspectives and emerging issues. To further its role as a national regulator, the Board maintains regular contact with a range of stakeholders.

Visit to Atlantic Canada

As part of the Board's efforts to communicate with stakeholders outside of the regulatory process, the majority of Board Members, along with the Chief Operating Officer, General Counsel and the Secretary, travelled to Atlantic Canada during the first week of May 2001. The purpose of the trip was to meet informally with NEB stakeholders and share information, discuss subjects of common interest and build relationships.

During the week, the Board met with several government departments and agencies, associations, companies, and Aboriginal and public interest groups. The visits were well received by all groups and a constructive dialogue was begun. A key message the Board received from Aboriginal and public interest groups was the need for more information on how the Board operates and guidance on how they may participate in Board processes.

Public Consultation

As a result of this dialogue with stakeholders, the NEB is taking steps to incorporate the specific views and needs of stakeholders in its processes. During regulatory proceedings, the Board works to broaden participation options and make the processes understandable to the people who participate in them. To this end, the NEB holds public information meetings and public consultations on regulatory proceedings in which the public has shown a significant interest. The Board also hosted public information sessions and workshops regarding the proposed GSX Project at various locations in British Columbia. Staff of the NEB and CEAA were on hand to assist the public, including First Nations, in preparing for participation in the upcoming public hearing to consider the GSX application, and to explain the participant funding administered by the CEAA. Another alternative approach to dealing with issues took place during 2001, when the NEB held a pre-hearing conference for hearing participants in the TransCanada Fair Return application to discuss procedural matters. The conference allowed procedural issues to be resolved more effectively than in the formal hearing process.

The Board also consults the public during the updating of processes and regulatory instruments. During the year, the Board issued the results of its survey on proposed Damage Prevention Regulations for pipelines. The results of that survey are posted on the Board's Internet site. The Board also conducted an extensive survey of landowners during the year to measure satisfaction levels in dealing with the NEB and the information landowners receive from the NEB as well as pipeline companies in their communities. A reliable database of information has been created so that the Board can continue to measure landowner satisfaction with issues falling within the NEB's mandate.

Aboriginal Engagement

In September 2001, the NEB began to reassess and update its approach to engaging Aboriginals in its regulatory processes. Initial work has been completed. The next steps will include informal discussions with stakeholders and government departments to identify interests and best practices.

Removing Barriers to Participation

To ensure that its processes are effective, the NEB must ensure that there are no unnecessary barriers in the way of those wishing to participate. The Board has had indications that some parties find the formal nature of many of its processes to be intimidating. It is also important that parties have easy access to the information they need to effectively participate. To succeed, the Board must ensure that it does not employ any processes that present an unnecessary barrier to participation for any member of the public who has a legitimate interest in the outcome of the process. The Board typically holds its public hearings in locations where the public interest in a project is greatest, in order to facilitate public participation in the process.

During 2001, the Board revised its post-hearing questionnaire and designed a questionnaire for participants at public information and consultation sessions sponsored by the NEB. These survey instruments will gather feedback from participants with specific emphasis on identifying barriers to participation and overall satisfaction with Board processes. As a result of the feedback received, the Board continued its effort to improve our hearing processes and to ensure that NEB publications are written in plain language.

Public Information Services

The NEB is aware that, in order to effectively participate in Board matters, Canadians need access to easy-to-understand, timely and relevant information. With this in mind, the Board continues to improve its public information processes by making them more easily accessible and understandable. It is also committed to enhancing electronic access to key Board information and regulatory processes through its Internet site.

Communication Instruments

Internet Site (www.neb-one.gc.ca)

The NEB's Internet site has continued to grow to meet the needs of Canadians interested in NEB matters. Information about the Board's role and regulatory responsibilities, energy market assessment reports, statistical information, frontier lands information, pipeline safety, and tolls is regularly posted. The Board also posts information on current regulatory proceedings including news releases, hearing orders, transcripts of all public hearings, reasons for decision and the monthly *Regulatory Agenda*.

During the past year, the Board has been broadcasting all of its public hearings using streaming audio through its Internet site. This service has been well received by all users and will continue during 2002, with additional improvements made to the service.

News Releases

News releases are issued for matters before the Board. This includes major applications, public hearings, decisions, public consultations and major announcements. In 2001, the Board issued 47 news releases. The Board encourages clients to access news releases via the Internet site, although they are also available from the library, by fax and by mail.

Regulatory Agenda

The NEB publishes a monthly *Regulatory Agenda* which is available on its internet site and in paper copy. Published since 1982, the *Regulatory Agenda* provides updated information about regulatory applications before the NEB and other Board matters.

Information Bulletins

The Board publishes a series of information bulletins and brochures about its activities. During 2001, updating of the information bulletins continued. Updated versions will be available to the public during the course of 2002. A complete listing of the Board's information bulletins can be found in Supplement III of this report.

Electronic Filing

During the fall 2001, the Board reached a milestone and decided to change the supported e-filing document format from Standard Generalized Markup Language (SGML) to Portable Document Format (PDF). This decision was based on lessons learned from the Electronic Regulatory Filing (ERF) pilot launched in April 2001. This change is intended to make it easier for companies to file applications electronically and for parties to participate online in the decision-making process.

Starting February 2002, access to the Board's database of public regulatory documents will be via the Internet site. Those wishing to file electronically will be encouraged to submit documents to the Board using an online form.

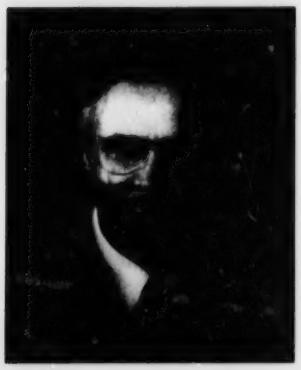
Future improvements to e-filing will be covered by the Government On-line initiative as the Board strives to improve its online service offering to all stakeholders.

Toll Free Number

The Board also recognizes that effective communication through these various media does not replace the need for personal interaction. Therefore, the Board welcomes personal communication from the public via its toll free number at 1-800-899-1265. Over the course of 2001, the NEB received nearly 3,800 calls on the 1-800 toll free line, compared with 3000 in the year 2000.

A Wealth of Experience

The National Energy Board is made up of eight full-time members who were appointed based on their wide range of expertise in energy matters and public policy. Our multi-disciplinary team reflects the diverse perspectives and the practical knowledge required for making decisions on energy projects in the interests of Canadians and advising the Government of Canada on energy issues. Members have private and public sector experience in economics, engineering, environment, finance, law, public participation, safety and science.

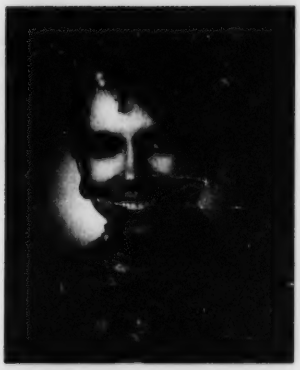


Kenneth W. Vollman

A native of Saskatchewan, Mr. Vollman has a Master's degree in Mechanical Engineering from the University of Saskatchewan and is a member of the Association of Professional Engineers of Alberta.

Mr. Vollman has spent his career working in the energy sector gaining his practical experience with oil and gas production while working in the private sector. During his career at the NEB, Mr. Vollman gained experience in energy supply and demand, pipelines, energy regulatory issues and management. In 1998, he was designated as Chairman after serving as a Member and Vice-Chairman.

Over the past 30 years, Mr. Vollman has authored and presented numerous papers at Canadian and international conferences.



Judith A. Snider

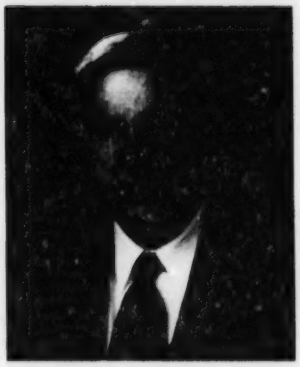
Ms. Snider holds a Bachelor of Laws degree from the University of Calgary and a Bachelor of Science degree (mathematics) from Carleton University. She has been a member of the Alberta bar since 1982.

Rowland J. Harrison

Originally from Australia, Mr. Harrison has a Master of Laws degree from the University of Alberta and is a member of the bars of Nova Scotia, Ontario and Alberta. He has gained extensive advisory, consulting and research experience in various aspects of energy regulation and policy during his career.

As a Professor of Law at various Canadian universities, Mr. Harrison taught Oil and Gas Law, Advanced Petroleum Law, Constitutional Law and Administrative Law. He has held senior management positions with a number of organizations including Canada Oil and Gas Lands Administration, the Canadian Institute of Resources Law, the Institute for Research on Public Policy and the Dalhousie Institute of Environmental Studies. Most recently, he was a partner in the Calgary office of Stikeman Elliott, a national and international Canadian law firm.

John S. Bulger

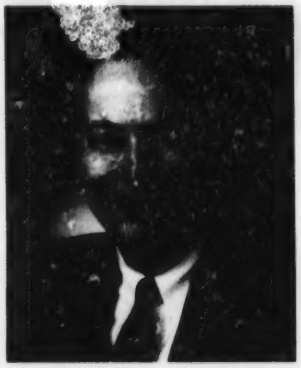


Originally from Manitoba, Dr. Bulger has a Ph.D. in Physical Chemistry from York University in Toronto, as well as a Graduate Management Diploma from McGill University, in Montreal. He has experience in procurement, operations, planning, regulatory affairs and providing advice on energy issues.

Prior to being appointed to the Board, Dr. Bulger held the position of Senior Manager, Regulatory Affairs at Maritimes and Northeast Pipeline in Halifax, Nova Scotia. He also spent almost 20 years at Gaz Métropolitain in various senior management positions. Dr. Bulger began his career at DuPont of Canada Ltd.

Dr. Bulger is a member of the Chemical Institute of Canada.

Jean-Paul Théorêt



A native of Quebec, Mr. Théorêt has a diverse educational and professional background in business, economics, law and energy regulation.

Mr. Théorêt was a Commissioner of the Régie de l'énergie in Quebec for eight years. He was elected to the Quebec National Assembly in 1985 where he served as Parliamentary Assistant to the Minister of Industry, Trade and Technology as well as Vice Chairman of the Committee on Labour and the Economy.

Mr. Théorêt has 30 years of business experience serving as an Executive Vice President of a large food distribution company and owner of food stores in Quebec.

Elizabeth (Liz) Quarshie

Originally from Ghana, Ms. Quarshie has a Master's Degree in Environmental Engineering from Washington State University. She is a member of the Association of Professional Engineers and Geoscientists of Saskatchewan and is a Certified Professional Environmental Auditor.

Ms. Quarshie has more than 15 years experience in the energy sector and has held a portfolio of senior management positions at Cogema Resources Inc. and Cameco in Saskatoon, and directed programs such as occupational health and safety, environmental impact assessments, compliance and public affairs. She also has extensive industry experience in project planning and design, development, implementation, monitoring and decommissioning.

Ms. Quarshie also has experience in radiation protection, air pollution control, solid and hazardous waste management, water and wastewater treatment, research and evaluation, environmental management systems, audits and community development.

Deborah W. Emes

Originally from Saskatchewan, Ms. Emes has a Master of Arts in Economics from the University of Calgary and is a Chartered Financial Analyst. She has practical and academic expertise in providing regulatory, economic and market advice.

Ms. Emes has held positions in the public and private sectors, including Manager, Strategic Services for the British Columbia Utilities Commission. She has also taught rate design and cost of capital training seminars for the Canadian Association of Members of Public Utility Tribunals.

Carmen L. Dybwad

A native of Saskatchewan, Dr. Dybwad has a Ph.D. in Regional Planning and Resource Development from the University of Waterloo. She has an educational background in economics as well as practical and academic expertise in public participation, resource development and the electricity sector.

Dr. Dybwad has held several positions with the Government of Saskatchewan and the Saskatchewan Power Corporation, including Manager of Environmental Policy and Planning. Most recently, she was an assistant professor at the University of Regina where she taught classes in ecological economics, sustainable development and public administration.

Henry A. Regier

On 8 December 1999, Dr. Henry A. Regier was appointed as a temporary Board Member for the Joint Panel Review of the Canadian Millennium Pipeline Project. His term ended 31 December 2001.

Bryan Williams

On 18 September 2001, the Honorable Bryan Williams was appointed as a temporary Board Member, for a term of one year, for the purpose of matters related to the Joint Panel Review of the GSX Canada Pipeline Project.

SUPPLEMENT I

The Board's Mandate

The National Energy Board is an independent regulatory tribunal established in 1959. It reports to Parliament through the Minister of Natural Resources Canada. The Board is a court of record and has the powers of a superior court with regard to attendance at hearings, the swearing in and examining of witnesses, the production and inspection of documents and the enforcement of its orders. At the end of 2001, the NEB had eight permanent board members, of a possible nine. Permanent board members are appointed for a term of seven years.

The Board's regulatory powers under the *National Energy Board Act* include granting authorizations for: the construction and operation of interprovincial and international oil, gas and commodity pipelines; the construction and operation of international and designated interprovincial power lines; the setting of tolls and tariffs for oil and gas pipelines under its jurisdiction; the export of oil, natural gas and electricity, and the import of natural gas. The Board also has regulatory powers under the *Canada Oil and Gas Operations Act* and certain provisions of the *Canada Petroleum Resources Act* for oil and gas exploration and activities on frontier lands not otherwise regulated under joint federal/provincial accords.

The Board's mandate includes providing expert technical advice to the Canada-Newfoundland Offshore Petroleum Board, Canada-Nova Scotia Offshore Petroleum Board, Natural Resources Canada, and Indian and Northern Affairs Canada.

Under the *Canadian Environmental Assessment Act*, the Board is responsible for conducting environmental assessments of the planning, construction, operation, maintenance and abandonment of energy projects within its jurisdiction. Under the *National Energy Board Act* and the *Canada Oil and Gas Operations Act*, the Board's environmental activities have evolved into three distinct phases: evaluating the potential environmental effects of proposed projects; monitoring and enforcing terms and conditions attached to project approvals; and the ongoing monitoring of operations.

The Board is responsible for ensuring the safe operations of the pipelines under its jurisdiction and the Board's inspectors are appointed Health and Safety Officers for the administration of the *Canada Labour Code, Part II*.

The Board provides advice to the Minister on matters relating to its regulatory expertise at the Minister's request. The Board also has specific responsibilities under the *Northern Pipeline Act* and the *Energy Administration Act*. Below is a listing of acts, regulations, rules and guidelines under which the Board operates or has responsibilities.

Acts

National Energy Board Act
Canada Labour Code, Part II
Canada Oil and Gas Operations Act
Canada Petroleum Resources Act
Canadian Environmental Assessment Act
Energy Administration Act
Mackenzie Valley Resource Management Act
Northern Pipeline Act

Regulations and Orders Pursuant to the National Energy Board Act

Gas Pipeline Uniform Accounting Regulations
National Energy Board Act Part VI (Oil and Gas) Regulations
National Energy Board Cost Recovery Regulations
National Energy Board Electricity Regulations
National Energy Board Export and Import Reporting Regulations
National Energy Board Order No. MO-62-69
National Energy Board Pipeline Crossing Regulations, Part I
National Energy Board Pipeline Crossing Regulations, Part II
General Order No. 1 Respecting Standard Conditions for Crossings by Pipelines
General Order No. 2 Respecting Standard Conditions for Crossings of Pipelines
National Energy Board Rules of Practice and Procedure, 1995
National Energy Board Substituted Service Regulations
Oil Pipeline Uniform Accounting Regulations
Oil Product Designation Regulations
Onshore Pipeline Regulations, 1999
Pipeline Arbitration Committee Procedure Rules, 1986
Power Line Crossing Regulations
Proclamation Extending the Application of Part VI of the Act to Oil (May 7, 1970)
Toll Information Regulations
Section 58 Streamlining Order XG/XO-100-2000

Guidelines and Memoranda of Guidance Pursuant to the National Energy Board Act

Adherence to Environmental Information Requirements under the Board's Guidelines for Filing Requirements (23 December 1997)
Filing of Supply Information in Compliance with the Board's Part VI (Oil and Gas) Regulations (16 May 1997)
Filing Procedures for Section 104 Right of Entry Order Applications (27 October 1999)
Financial Regulatory Audit Policy of the National Energy Board (23 February 1999)
Guidance Notes for the Onshore Pipeline Regulations, 1999 (7 September 1999)
Guidelines for Filing Requirements (22 February 1995)
Guidelines for Negotiated Settlement of Traffic, Tolls and Tariffs (23 August 1994)
Guidelines Respecting the Environmental Information to be Filed by Applicants for Authorization to Construct and Operate Gas Processing and Straddle Plants, Liquid Natural Gas (LNG) Plants and Terminals, Natural Gas Liquids (NGL), Liquid Propane Gas (LPG) and Butane Plants and Terminals, under Part III of the *National Energy Board Act* (26 June 1986)
Memorandum of Guidance - Concerning Full Implementation of the September 1988 Canadian Electricity Policy (Revised 26 August 1998)
Memorandum of Guidance - Fair Market Access Procedure for the Licensing of Long-term Exports of Crude Oil and Equivalent (17 December 1997)
Memorandum of Guidance - Regulation of Group 2 Companies (6 December 1995)
Memorandum of Guidance - Retention of Accounting Records by Group 1 Companies Pursuant to Gas/Oil Pipeline Uniform Accounting Regulations (30 November 1994)
Performance Measures filed as part of Year-end Quarterly Surveillance Reports (26 January 1996)
Memorandum of Guidance - Financial Information Submitted to the National Energy Board by Group 1 Pipeline Companies (6 December 2001)

Regulations Pursuant to the Canada Oil and Gas Operations Act

Canada Oil and Gas Certificate of Fitness Regulations
Canada Oil and Gas Diving Regulations
Canada Oil and Gas Drilling Regulations
Canada Oil and Gas Geophysical Operations Regulations
Canada Oil and Gas Installations Regulations
Canada Oil and Gas Operations Regulations
Canada Oil and Gas Production and Conservation Regulations
Oil and Gas Spills and Debris Liability Regulations

Guidelines and Guidance Notes Pursuant to the Canada Oil and Gas Operations Act

Guidance Notes for Applicant - Applications for Declaration of Significant Discovery and Commercial Discovery
Guidance Notes for the *Canada Oil and Gas Drilling Regulations*
Guidance Notes for the *Canada Oil and Gas Diving Regulations*
Guidelines Respecting Physical Environmental Programs During Petroleum Drilling and Production Activities on Frontier Lands
Offshore Waste Treatment Guidelines

Regulations Pursuant to the Canada Petroleum Resources Act

Frontier Lands Petroleum Royalty Regulations
Frontier Lands Registration Regulations

Regulations Pursuant to the Canadian Environmental Assessment Act

Comprehensive Study List Regulations
Exclusion List Regulations
Federal Authorities Regulations
Inclusion List Regulations
Law List Regulations
Projects Outside Canada Environmental Assessment Regulations
Regulations Respecting the Co-ordination by Federal Authorities of Environmental Assessment Procedures and Requirements

Regulations Pursuant to the Canada Labour Code, Part II

Oil and Gas Occupational Safety and Health Regulations
Safety and Health Committees and Representatives Regulations
Canada Occupational Safety and Health Regulations

Regulations Pursuant to the Mackenzie Valley Resources Management Act

Exemption List Regulations
Mackenzie Valley Land Use Regulations
Preliminary Screening Requirement Regulations

Regulations Pursuant to the Northern Pipeline Act

Northern Pipeline Notice of Objection Regulations
Northern Pipeline Socio-Economic and Environmental Terms and Conditions for Northern British Columbia
Northern Pipeline Socio-Economic and Environmental Terms and Conditions for the Province of Alberta
Northern Pipeline Socio-Economic and Environmental Terms and Conditions for the Province of Saskatchewan
Northern Pipeline Socio-Economic and Environmental Terms and Conditions for Southern British Columbia
Northern Pipeline Socio-Economic and Environmental Terms and Conditions for the Swift River Portion of the Pipeline in the Province of British Columbia
Order Designating the Minister for International Trade as Minister for Purposes of the Act
Transfer of Duties, in Relation to the Pipeline, of Certain Ministers Under Certain Acts to the Member of the Queen's Privy Council for Canada Designated as Minister for Purposes of the Act
Transfer of Duties, in Relation to the Pipeline, of the National Energy Board Under Parts I, II and III of the *Gas Pipeline Regulations* to the Designated Minister for Purposes of the Act
Transfer of Powers, Duties and Functions (Kluane National Park Reserve Lands) Order
Transfer of Powers, Duties and Functions (Territorial Lands) Order

Regulations Pursuant to the Territorial Lands Act

Canada Oil and Gas Land Regulations

SUPPLEMENT II

Companies Regulated by the NEB

The following pipeline companies and electric power entities own or operate interprovincial or international pipelines or power lines under the NEB's jurisdiction. The pipeline companies have been divided into two groups. Group 1 gas and oil pipelines are the major pipeline companies that are subject to active regulatory oversight by the NEB. Group 2 consists of all other pipeline companies under the NEB's jurisdiction.

For purposes of cost recovery, there are three classifications: large, intermediate and small. The criteria for determining a company's classification are based on its size, throughput, and cost of service.

Group 1 Gas Pipelines

Alliance Pipeline Ltd.
Foothills Pipe Lines Ltd.
Gazoduc Trans Québec & Maritimes Inc.
Maritimes and Northeast Pipeline Management Ltd.
TransCanada PipeLines Limited
TransCanada PipeLines Limited, B.C. System
Westcoast Energy Inc.

Group 1 Oil and Products Pipelines

Cochin Pipe Lines Ltd.
Enbridge Pipelines Inc.
Enbridge Pipelines (NW) Inc.
Trans Mountain Pipe Line Company Ltd.
Trans-Northern Pipelines Inc.

Group 2 Gas Pipelines

AEC Oil and Gas
AEC Suffield Gas Pipeline Inc.
AEC West Ltd.
AltaGas Services Inc.
AltaGas Transmission Inc.
ANG Gathering & Processing Ltd.
Bear Paw Processing Company (Canada) Ltd.
Calpine Canada Resources Ltd.
Canada Customs and Revenue Agency
Canadian Hunter Exploration Ltd.
Canadian Midstream Pipeline Limited Partnership
Canadian-Montana Pipe Line Company Limited
Canadian Natural Resources Limited
Centra Transmission Holdings Inc.
Champion Pipeline Corporation Limited
Chauvco Oil & Gas Ltd.
Chief Mountain Gas Co-op Ltd.
Devon Energy Canada Corporation
Duke Energy Canada Pipeline Ltd.
ELAN Energy Inc.
Enbridge Consumers' Gas Limited
Fletcher Challenge Energy Canada Inc.
Forty Miles Gas Co-op Ltd.
Gibson Petroleum Company Limited
Huntingdon International Pipeline Corporation

Husky Oil Operations Ltd.
KeySpan Energy Canada
Many Islands Pipe Lines (Canada) Limited
Mid-Continent Pipelines Limited
Minell Pipeline Limited
Mobil Oil Canada Ltd.
Murphy Canada Exploration Ltd.
Niagara Gas Transmission Limited
Olympia Energy Inc.
Omers Resouces Limited
PanCanadian Petroleum Limited
Peace River Transmission Company Limited
Penn West Petroleum Ltd.
Pioneer Natural Resources Canada Inc.
Portal Municipal Gas Company Canada Inc.
Quest Oil & Gas Inc.
Rigel Oil and Gas Ltd.
Sable Offshore Energy Incorporated
St. Clair Pipelines Ltd.
Samson Canada Ltd.
Shiha Energy Transmission Ltd.
Star Oil and Gas Ltd.
Superman Resources Ltd.
Suprex Energy Corporation
Talisman Energy Inc.
Taurus Exploration Ltd.
Union Gas Limited
Vector Pipeline Limited Partnership
Wascana Pipe Line Ltd.
177293 Canada Ltd.

Group 2 Oil and Products

Aurora Pipe Line Company
BP Canada Energy Company
Conoco Canada Ltd.
Dome Kerrobert Pipeline Ltd.
Dome NGL Pipeline Ltd.
Enbridge Pipelines (Westspur) Inc.
Ethane Shippers Joint Venture
Express Pipeline Ltd.
Federated Pipe Lines (Northern) Ltd.
Husky Energy Inc.
Husky Oil Operations Ltd.
Imperial Oil Resources Limited
ISH Energy Ltd.
Manito Pipelines Ltd.
Montreal Pipe Line Limited
Murphy Oil Company Ltd.
Nexen Marketing
NOVA Chemicals (Canada) Ltd.
PanCanadian Kerrobert Pipeline Ltd.
Penn West Petroleum Ltd.
Pipestone Pipelines Ltd.
Plains Marketing Canada, L.P.
Pouce Coupe Pipe Line Ltd.
PrimeWest Energy Inc.
Saskatchewan Oil and Gas Corporation
SCL Pipeline Inc.
SCL Quebec Pipeline Inc.
Sun-Canadian Pipe Line Company Limited
Sun Pipe Line Company
Taurus Exploration Ltd.
Williams Energy (Canada) Inc.
Yukon Pipelines Limited

Commodity Pipelines

Abitibi-Consolidated Inc.
E.B. Eddy Forest Products Ltd.
Fraser Paper Inc. (Canada)
Genesis Pipeline Canada Ltd.
Penn West Petroleum Ltd.
Souris Valley Pipeline Limited

Electric Power Utilities Companies Regulated by the NEB

Abitibi-Consolidated Inc.
Aquila Canada Corp.
ATCO Electric Ltd.
ATCO Power Ltd.
Bonneville Power Administration
BP Canada Energy Company
British Columbia Hydro and Power Authority
Canadian Niagara Power Company, Limited
The Canadian Transit Company
Candela Energy Corporation
Chandler Energy Inc.
CMS Marketing, Services and Trading Company
Columbia Power Corporation
Cominco Ltd.
Constellation Power Source, Inc.
Coral Energy Canada Inc.
Detroit & Canada Tunnel Corporation
Duke Energy Marketing Canada Ltd.
Dynegy Canada Inc.
Edison Mission Marketing & Trading, Inc.
El Paso Merchant Energy, L.P.
Energie Maclaren Inc.
Engage Energy Canada, L.P.
Engage Energy US, L.P.

ENMAX Energy Marketing Inc.
Enron Canada Corp.
Entergy-Koch Trading, LP
Farms (including cottage and isolated loads)
Fraser Paper Inc. (Canada)
Hydro One Networks Inc.
Hydro-Québec
IDACORP Energy L.P.
Independent Electricity Market Operator
Inland Pacific Energy Services Ltd.
Lac La Croix Power Authority
Manitoba Hydro
Marketing D'Energie HQ Inc.
Mirant Americas Energy Marketing, L.P.
Montwegan International Energia Resorce Inc.
New Brunswick Power Corporation
Nova Scotia Power Inc.
NRG Power Marketing, Inc.
Ontario Power Interconnected Markets Inc.
PanCanadian Energy Services
PG&E Energy Trading - Power L.P.
Roseau Electric Cooperative Inc.
St. Clair Tunnel Company
Saskatchewan Power Corporation
Sempra Energy Trading Corp.
Sonat Power Marketing Inc.
Sonat Power Marketing, L.P.
Tractebel Energy Marketing Inc.
TransAlta Energy Marketing Corp.
TransCanada Energy Ltd.
West Kootenay Power Ltd.
WPS Canada Generation, Inc.

SUPPLEMENT III

Documents

Information Bulletins

The Board publishes Information Bulletins on the subjects listed below:

1. Pipeline Route Approval Procedures
2. The Public Hearing Process
3. Non-Hearing Procedures
4. How to Participate in a Public Hearing
5. The Board's Publications
6. Traffic, Tolls and Tariffs
7. The National Energy Board Library
8. Electricity
9. Protection of the Environment
10. Pipeline Tolls and Tariffs: A Compendium of Terms
11. The Frontier Information Office
12. Pipeline Safety
13. Pipeline Regulation: An Overview for Landowners and Tenants

The Board also publishes the following brochures:

Living and Working Near Pipelines - Landowner Guide 2001
Excavation and Construction Near Pipelines, February 2001

Major Documents Published in 2001

Pipeline Facilities

Murphy Oil Company Ltd.
Chinchaga Sales Gas Loop in Northern British Columbia - GH-1-2001
Reasons for Decision, March 2001

Westcoast Energy Inc.
Purchase a Pipeline in the Maxhamish area of Northeast British Columbia - GH-3-2000
Reasons for Decision, April 2001

Westcoast Energy Inc.
Pine River Gas Plant Sulphur Pipeline - MH-1-2001
Decision read from the Bench on 12 April 2001

Enbridge Pipelines Inc.
Terrace Expansion Phase II - OH-1-2000
Reasons for Decision, May 2001

Westcoast Energy Inc.
Pine River Gas Plant Sulphur Pipeline - MH-1-2001
Reasons for Decision, October 2001

Petro-Canada
Medicine Hat Pipeline - GH-3-2001
Reasons for Decision, December 2001

Tolls and Tariffs

Murphy Oil Company Ltd.
Milk River Pipeline - Toll Complaint
Reasons for Decision, August 2001

BC Gas Utility Ltd.
Review of Reasons for Decision
RH-2-98 on Tolls - RH-2-2001
Reasons for Decision, October 2001

Maritimes & Northeast Pipeline
Management Ltd.
Tolls - RH-3-2001
Letter Decisions, 8 and 15 November 2001

TransCanada PipeLines Limited
Tolls - RH-1-2001
Reasons for Decision, November 2001

Rate of Return on Common Equity for 2002
Letter of Decision, 6 December 2001

Guidelines for Filing Requirements
Revised Part XI entitled Quarterly Surveillance Reports to be filed by Group 1 Pipeline Companies Pursuant to the Toll Information Regulations, 6 December 2001

Electricity

Coral Energy Canada Inc.
Electricity Export
Letter Decision, 25 January 2001

NRG Power Marketing Inc.
Electricity Export
Letter Decision, 25 January 2001

El Paso Merchant Energy, L.P.
Electricity Export
Letter Decision, 20 June 2001

Entergy Power Marketing Corp.
Electricity Export
Letter Decision, 9 March 2001

BP Canada Energy Company
Electricity Export
Letter Decision, 13 July 2001

Independent Electricity Market Operator of Ontario
Electricity Export
Letter Decision, 5 July 2001

PanCanadian Energy Services
Electricity Export
Letter Decision, 18 July 2001

Other

Regulatory Agenda
Twelve Issues - 1 January to 1 December 2001

Guidance on Provision of a Preliminary Information Package for Gas Development in the NWT Issued jointly by the chairs of the boards and agencies with responsibility for assessing and regulating energy developments in the Northwest Territories, February 2001

National Energy Board - 2000 Annual Report, April 2001

Canadian Electricity Trends and Issues
An Energy Market Assessment Report, May 2001

North American Natural Gas Liquids Pricing and Convergence
An Energy Market Assessment Report, May 2001

Practice Direction for the Mediation of Detailed Route Objections, July 2001

Technical Report, Conventional Heavy Oil Resources of the Western Canada Sedimentary Basin, August 2001

National Energy Board - 2001-2002 Estimates
Part III - Report on Plans and Priorities

National Energy Board Performance Report
For the period ending 31 March 2001

National Energy Board - Report Pursuant to the *Access to Information Act* and the *Privacy Act* (1 April 2000 - 31 March 2001)

SUPPLEMENT IV

Legal Proceedings

1. *Athabasca Chipewyan First Nation, British Columbia Wildlife Federation and the Steelhead Society of British Columbia v. British Columbia Hydro and Power Authority (BC Hydro)*

Federal Court of Appeal

The Athabasca Chipewyan First Nation filed an application with the Federal Court of Appeal for leave to appeal a decision of the Board dated 6 January 1999, in which it issued an electricity export permit to BC Hydro. The British Columbia Wildlife Federation and the Steelhead Society of British Columbia also applied for leave to appeal the decision. In each case leave to appeal was granted by the Court and a Notice of Appeal was served on the Board.

On 2 September 1999, the Federal Court of Appeal ordered that the appeals be consolidated.

Decision: The Court, in a judgement dated 14 March 2001, allowed the appeal. The effect of the judgement was to require the Board to receive and consider additional information from BC Hydro regarding changes, if any, to the operation of its facilities that would be occasioned by the issuance of the permits sought and to identify the adverse environmental effects, if any, that would result from such changes.

On 26 September 2001, the Board, as directed by the Federal Court of Appeal, reviewed the evidence submitted by BC Hydro and the submissions of all parties and decided to issue export permits to BC Hydro.

2. *Canadian Forest Oil Limited (Canadian Forest) v. Chevron Canada Resources (Chevron) and Ranger Oil Limited (Ranger)*

Federal Court of Appeal

On 24 January 2000, Canadian Forest filed a judicial review application in the Federal Court of Appeal in respect of a Commercial Discovery Declaration (CDD) relating to the Fort Liard K-29 gas well issued by the Board to Chevron and Ranger on 5 January 2000. The application sought to quash the Board's decision on the grounds that the Board breached the rules of natural justice and procedural fairness by issuing the CDD before the 30-day waiting period prescribed under the *National Energy Board Act* had run its course and failing to include Canadian Forest in the Board's list of directly affected parties. Canadian Forest also sought interim relief to restrain the Board from issuing any further permits or approvals relating to the development of the area covered by the CDD.

Decision: On 21 June 2001, Canadian Forest filed a discontinuance of the application with the Federal Court of Appeal.

3. *Geophysical Services Incorporated v. The Chairman, National Energy Board and Information Commissioner of Canada*

Federal Court Trial Division

In November of 2000, the Board was served with a judicial review application in respect of a denial pursuant to an Access to Information request. The judicial review application stated that the Board erred in concluding that the disclosure of the information requested could reasonably be expected to result in material financial loss, or prejudice the competitive position of a third party.

Decision: As of 31 December 2001, this matter had yet to be set down for hearing.

4. *Federation of Saskatchewan Indian Nations; The Chiefs of Treaty No. 4 and Treaty No. 8 (FSIN) - Alliance Pipelines Ltd.*

Federal Court of Appeal

On 2 May 2001, FSIN brought an application for judicial review of the NEB's decision of 2 April 2001 to deny FSIN's request that the Board convene a hearing to consider revocation or suspension of the Certificate of Public Convenience and Necessity (GC-98) issued to Alliance. FSIN claimed that Alliance had contravened a term or condition of the certificate.

On 24 October 2001, FSIN filed a Motion Record that the Court concluded did not comply with the Federal Court Rules or with an interlocutory order of the Court. The Court suggested that FSIN consider moving to amend its application.

Decision: As of 31 December 2001, FSIN had not taken any further steps to amend its application.

5. *TransCanada PipeLines Limited (TransCanada) - Cost Recovery Regulations (CRR) - TransCanada's British Columbia System*

Federal Court of Appeal

On 24 October 2001, TransCanada applied to the Federal Court of Appeal for leave to appeal the Board's decision of 27 September 2001 in which the Board reversed TransCanada's entitlement to a 2 percent cap under the CRR for it's BC System.

Decision: A discontinuance of the action was filed on 3 December 2001 with the Federal Court of Appeal.

6. *Saulteau First Nations - Westcoast Energy Inc.'s Kwoen Facilities*

Review by NEB

On 22 August 2001, the Saulteau First Nations applied for a review and a stay of an order approving the construction of Westcoast's Kwoen facilities. The Saulteau First Nations' grounds for review and stay were: (i) errors of law or jurisdiction; (ii) changed circumstances arising since the close of the original proceeding: failure by previous counsel to appear before the Board and subsequent appearance by new counsel; (iii) facts not placed in evidence in the original proceedings; and, (iv) nature of the prejudice that will result from the order.

On 24 August 2001, the Board decided to establish a process to consider the submissions of the parties in relation to the application. Specifically, the Board sought submissions on the question

of whether a doubt has been raised as to the correctness of the Board's decision or order and whether a stay should be granted.

Decision: On 5 October 2001, the Board, after having reviewed the submissions of all interested parties, decided to dismiss the application for review filed on behalf of the Saulteau First Nations.

7. Westcoast Energy Inc.'s Kwoen Facilities

Review by NEB

On 27 September 2001, the Board decided, on its own motion, to conduct a review of its order approving the construction of Westcoast's Kwoen facilities. On 19 September 2001, Westcoast had informed the Board that it had identified problems with Talisman Energy Inc.'s re-injection well located at b-65-B/93-p-5(b-65 well) and that the connection of the Kwoen facilities as approved by XG-W005-22-2001 to the b-65 well appeared to be in serious doubt. The Board noted that the b-65 well is fundamental to the operation of the Kwoen facilities as approved. In the absence of a connection between the Kwoen re-injection pipeline and the b-65 well, the viability of the Kwoen project and other projects related to it may be in question.

Decision: As of 31 December 2001, this review had yet to be completed.

8. BC Gas Utility Ltd. (BC Gas) - Westcoast Energy Inc. (Westcoast)

Review by NEB

On 8 May 2001, BC Gas applied to the Board for: (i) a review and variance of the Board's Decision and Order TG-2-99 issued following the RH-2-98 proceeding; and, (ii) an order establishing the terms and conditions under which Westcoast must transport natural gas from Kingsvale and Hope to Huntingdon, British Columbia.

In the RH-2-98 Decision, the Board approved a request by BC Gas for a receipt point on Westcoast's pipeline at Kingsvale and for Westcoast to receive, transport and deliver any gas delivered at Kingsvale to the Huntingdon Delivery Area. The Board also decided that the appropriate toll for firm service from Kingsvale to Huntingdon would be Westcoast's Zone 4 toll to Huntingdon.

In June 2001, the Board, following the review of submissions from interested parties, found that, on balance, the changed circumstances and new facts identified by BC Gas supported its request for review of the RH-2-98 Decision and set the application down for public hearing.

Decision: On 1 November 2001, the Board issued its decision and concluded that:

- if Westcoast expands its system between Kingsvale and Huntingdon to provide service to BC Gas between these two points, a toll of 12 cents per thousand cubic feet (¢/Mcf) will apply
- until the Westcoast system is expanded, the toll for firm deliveries from Kingsvale to Huntingdon will remain the full Zone 4 toll
- it would not rule at this time on what could be an acceptable toll for firm service from Hope to Huntingdon
- it would deny requests to amend the current interruptible toll design and other aspects of the firm toll design for Zone 4 associated with removing Kingsvale from the Inland Delivery Area

9. *Webb Real Estate (Webb) - Maritimes and Northeast Pipelines Management Ltd. (M&NP)*

Review by NEB

On 27 April 2001 Webb asked the Board to review an order granted under s. 58 of the *National Energy Board Act* which effectively approved the construction of certain M&NP facilities and a right of entry order required for that construction.

Webb argued that the Board erred in not granting Webb a sufficient extension for filing submissions, that the Board showed apprehension of bias in granting an insufficient extension and that the Board breached the rules of natural justice in making a decision without giving Webb a reasonable opportunity to make further submissions.

Decision: On 25 May 2001 the Board determined that a *prima facie* case for review had not been established for either order and dismissed the application for review.

SUPPLEMENT V

Co-operation with Other Organizations

The National Energy Board co-operates with other agencies to reduce regulatory overlap and provide more efficient regulatory services.

Alberta Energy and Utilities Board (EUB)

The NEB has an MOU with the EUB on Pipeline Incident Response. The agreement provides for mutual assistance and a faster and more effective response by both boards to pipeline incidents in Alberta.

The NEB and the EUB maintained their commitment to using the common reserves database for oil and gas reserves in Alberta. Both boards are committed to developing more efficient methods for maintaining estimates of reserves and to exploring other opportunities for co-operation.

British Columbia Ministry of Energy and Mines (BCMEM)

The NEB and BCMEM maintained their commitment to using a common reserves database for oil and gas reserves in British Columbia. Both boards are committed to developing more efficient methods for maintaining estimates of reserves and to exploring other opportunities for co-operation.

BCMEM is also a member of the Canadian Coalbed Methane Forum along with the Geological Survey of Canada and the NEB.

Canada-Newfoundland Offshore Petroleum Board (CNOPB) and Canada-Nova Scotia Offshore Petroleum Board (CNSOPB)

The Chairs of the NEB, the CNOPB and the CNSOPB, together with executives from the Newfoundland and Labrador and Nova Scotia Departments of Energy and NRCan, form the Oil and Gas Administrators Advisory Council (OGAAC). The OGAAC membership discuss and decide on horizontal issues affecting their respective organizations to ensure convergence and collaboration on oil and gas exploration and production issues across Canada. The NEB, CNOPB and CNSOPB staff also work together to review, update and amend regulations and guidelines affecting oil and gas activities on Accord Lands.

The NEB staff also provide technical expertise to NRCan, CNOPB and CNSOPB on technical matters of mutual interest, such as reservoir assessment, occupational safety and health, diving, drilling and production activities.

Canadian Association of Members of Public Utility Tribunals (CAMPUT)

CAMPUT is a non-profit organization of federal, provincial and territorial boards and commissions which are responsible for the regulation of the electric, water, gas and pipeline utilities in Canada. Members and staff sit on the executive committee of the association, promoting the education and training of members and staff of public utility tribunals. During 2001, Board members and staff attended the Annual CAMPUT conference.

Canadian Coalbed Methane Forum (CCMF)

The NEB is active as a member of the CCMF to stay aware of developments of this potential resource for future gas supply. The CCMF is made up of representatives from industry and provincial and federal government departments and agencies.

Canadian Environmental Assessment Agency (CEAA)

NEB staff are actively engaged with CEAA matters, participating in CEAA's Senior Management Committee and acting as an observer on the Regulatory Advisory Committee. This involvement ensures effective co-ordination of regulatory responsibilities relating to environmental assessments.

Comisión Reguladora de Energía (CRE) of Mexico

Staffs at the NEB and CRE maintain an ongoing informal relationship, sharing regulatory experiences and information on North American energy markets. This relationship, which includes inter-agency staff visits, is expected to result in a written cooperation arrangement in the next year.

Co-operation on the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline Project through the Northwest Territories

Through 2001, the NEB worked in collaboration with the boards and agencies with responsibility for environmental impact assessment and regulatory review of a major natural gas pipeline through the Northwest Territories to develop a Draft Co-operation Plan (DCP). The DCP is a planning tool that has been devised to take advantage of opportunities for co-ordination and co-operation of review processes within existing legislation. It provides a framework for an efficient, timely and flexible process that enhances public and northern participation. The plan also provides for consolidated information requirements, a joint technical support team, and a joint public registry to reduce duplication. The parties to the Plan include: the Mackenzie Valley Land and Water Board, The Sahtu and Gwich'in Land and Water Boards, the NWT Water Board, the Mackenzie Valley Environmental Impact Review Board, the Environmental Impact Screening Committee and the Environmental Impact Review Board for the Inuvialuit Settlement Region, the Inuvialuit Game Council, the Inuvialuit Land Administration, the Canadian Environmental Assessment Agency, the Department of Indian Affairs and Northern Development, and observers from the Deh Cho First Nation, the Government of the NWT and the Government of Yukon.

Human Resources Development Canada (HRDC)

The NEB has an MOU with HRDC to administer the *Canada Labour Code* for NEB-regulated facilities and activities and to co-ordinate these safety responsibilities under the COGO Act and the NEB Act.

Mackenzie Valley Environmental Impact Review Board (MVEIRB)

In late 2000, the NEB and the MVEIRB signed a joint Memorandum of Understanding to establish a co-operative framework for environmental impact assessment in the Mackenzie Valley. In the case of transboundary pipeline project, the NEB has responsibilities under both the *Mackenzie Valley Resource Management Act* and the *Canadian Environmental Assessment Act.* This MOU facilitates the co-operation of two boards to reduce duplication and increase effectiveness of the environmental review process.

National Association of Regulatory Utility Commissioners (NARUC)

Board members regularly participate in meetings of the U.S. NARUC, particularly with respect to developments in U.S. gas markets that may affect cross-border trade in natural gas.

Natural Resources Canada (NRCan)

In 1996, the NEB signed a Memorandum of Understanding (MOU) with NRCan to reduce duplication and increase co-operation between the agencies. This MOU covers items such as data collection, the enhancement of energy models and special studies. The MOU was renewed in January 2000.

Northern Pipeline Agency (NPA)

The NEB provides technical and administrative assistance to the NPA, which, under the *Northern Pipeline Act,* has primary responsibility for overseeing the planning and construction of the Canadian portion of the proposed Alaska Natural Gas Transportation System by Foothills Pipe Lines Ltd. Mr. Kenneth W. Vollman, Chairman of the NEB, serves as Administrator and Designated Officer of the NPA.

Pipeline Technical Regulatory Authorities of Canada Council (PTRACC)

The NEB chairs a staff committee of federal and provincial technical regulators. PTRACC meets regularly throughout the year to discuss pipeline safety and environmental initiatives.

Saskatchewan Department of Energy and Mines (SEM)

The NEB and the SEM have worked together on some resource issues, but a formal agreement has not been signed.

Transportation Safety Board of Canada (TSB)

While the NEB has exclusive responsibility for regulating the safety of oil and gas pipelines under federal jurisdiction, it shares the responsibility for investigating pipeline incidents with the TSB. The roles and responsibilities of each body with regard to pipeline accident investigations are outlined in a MOU between the two boards.

U.S. Federal Energy Regulatory Commission (FERC)

NEB and FERC executives maintain a regular dialogue on their respective regulatory experiences and exchange information available in the public domain in order to assist in the planning and management of the workload of the two organizations.

Yukon Territory Department of Economic Development (YDED)

The NEB continues to work with Yukon officials to facilitate the transfer of oil and gas regulatory responsibilities in accordance with the Yukon Accord Implementation Agreement. The Board provides expert technical advice to the YDED.

SUPPLEMENT VI

List of Appendices

The following Statistical Reports are published separately as Appendices to the Annual Report. Electronic copies can be found on the Board's Internet site and printed versions are available from the Publications Office call (403) 299-3562 or 1-800-899-1265, send a facsimile to (403) 292-5503 or visit the Board's Internet site (www.neb-one.gc.ca).

Appendix A

- A1 Crude Oil and Equivalent Supply and Disposition
- A2 Estimated Established Reserves of Crude Oil and Bitumen at 31 December 2000
- A3 Natural Gas Supply and Disposition
- A4 Estimated Established Reserves of Marketable Natural Gas at 31 December 2000
- A5 Natural Gas Liquids Supply and Disposition
- A6 Geophysical Activity
- A7 Exploration and Development Expenditures
- A8 Sales of Exploration Rights in Western Canada
- A9 Sales of Exploration Rights in Frontier Regions
- A10 Electricity Generation and Disposition

Appendix B

- B1 Certificates Issued During 2001 Approving Oil Pipeline Facilities Including Pipeline Construction Exceeding 40 Kilometres in Length
- B2 Orders Issued During 2001 Approving Oil Pipeline Facilities Including Pipeline Construction Not Exceeding 40 Kilometres in Length
- B3 Exports of Canadian Crude Oil and Equivalent - 2000 and 2001
- B4 Exports of Canadian Crude Oil and Equivalent - 1997 to 2001
- B5 Exports of Petroleum Products by Month - 2001
- B6 Exports of Petroleum Products by Company - 2000 and 2001

Appendix C

- C1 Certificates Issued During 2001 Approving the Construction of Gas Pipeline Facilities Exceeding 40 Kilometres in Length
- C2 Orders Issued During 2001 Approving the Construction of Gas Pipeline Facilities Not Exceeding 40 Kilometres in Length
- C3 Licences and Long-Term Orders to Export Natural Gas as at 31 December 2001
- C4 Licences and Long-Term Orders to Import Natural Gas as at 31 December 2001
- C5 Natural Gas Exports by Export Point - 1997 to 2001
- C6 Total Net Exports of Propane and Butanes - 2000 and 2001

Appendix D

D1 Financial Information - Group 1 Oil Pipeline Companies with Multi-year Incentive Toll Agreements
D2 Financial Information - Group 1 Oil Pipeline Companies with Tolls based on Cost of Service
D3 Financial Information - Group 1 Gas Pipeline Companies

Appendix E

E1 Certificates and Permits Issued During 2001 for International Power Lines
E2 Amending Orders Issued During 2001 for International Power Lines
E3 Revoking Orders Issued During 2001 for International Power Lines
E4 Licences Issued During 2001 for the Export of Electricity
E5 Permits and Orders Issued During 2001 for the Export of Electricity
E6 Electricity Exports - 2001
E7 Electricity Trade Between Canada and the United States - 2001 (by Province)
E8 Electricity Trade between the United States and Canada - 2001 (by American Region/State)

SUPPLEMENT VII

NEB Organization

Senior Board Staff

Gaétan Caron	Chief Operating Officer
Judith Hanebury	General Counsel
Brenda Kenny	Business Leader, Applications
John McCarthy	Business Leader, Operations
Terrance Rochefort	Business Leader, Commodities
Byron Goodall	Business Leader, Information Management
Valerie Katarey	Business Leader, Corporate Services
Michel Mantha	Secretary of the Board
Bonnie Gray	Project Leader, Northern Preparedness
Glenn Booth	Professional Leader, Economics
Claudine Dutil-Berry	Acting Professional Leader, Environment
Vacant	Professional Leader, Engineering

Business Unit Responsibilities

The Board is structured into five business units, reflecting its major business processes: Applications, Operations, Commodities, Information Management and Corporate Services. In addition, the Executive Office includes three other units to provide specialized services: Legal Services, Professional Leadership and Regulatory Services.

Unit Descriptions

Applications

The Applications Business Unit is responsible for processing and assessing regulatory applications submitted under the *National Energy Board Act*. These fall primarily under Parts III and IV of the *National Energy Board Act*, corresponding to facilities and tolls and tariffs applications. The Applications Unit is also responsible for the financial surveillance and audits of NEB-regulated pipelines.

Operations

The Operations Business Unit is accountable for safety and environmental matters pertaining to facilities under the *National Energy Board Act*, the *Canada Oil and Gas Operations Act* and the Canada Petroleum Resources Act. It conducts safety and environmental inspections and audits, investigates accidents, monitors emergency response procedures, regulates the development of hydrocarbon resources in non-accord frontier lands, and develops regulations and guidelines with respect to the above.

Commodities

The Commodities Business Unit is responsible for energy industry and marketplace surveillance, including the outlook for the demand and supply of energy commodities in Canada and updating of guidelines and regulations relating to energy exports as prescribed by Part VI of the NEB Act. It is also responsible for processing applications for exports of natural gas, oil, natural gas liquids and electricity, imports of natural gas, and construction and operation of international power lines.

Information Management

The Information Management Business Unit is responsible for developing and implementing an information management strategy for the Board and disseminating the information required by internal and external stakeholders.

Corporate Services

The Corporate Services Business Unit is responsible for providing those services necessary to assist the Board in its management of human, material and financial resources.

Executive Office

The Executive Office is responsible for the Board's overall capability and readiness to meet strategic and operational requirements including legal advice for both regulatory and management purposes, maintaining and enhancing technical expertise within the Board in the economic, environmental and engineering fields, and hearing administration and regulatory support.

SUPPLEMENT VIII

List of Abbreviations

Alliance	Alliance Pipeline Ltd.
AVC	assurance of voluntary compliance
BC Gas	BC Gas Utility Ltd.
BC Hydro	British Columbia Hydro and Power Authority
Board or NEB	National Energy Board
CAPP	Canadian Association of Petroleum Producers
Cartier	Cartier Pipeline and Company, Limited Partnership
CEAA	Canadian Environmental Assessment Agency
COGO Act	*Canadian Oil and Gas Operations Act*
CSA	Canadian Standards Association
CSR	Comprehensive Study Report
EMA	Energy Market Assessment
Enbridge	Enbridge Pipelines Inc.
ERF	Electronic Regulatory Filing
ESIMS	Environment and Safety Information Management System
ESRF	Environmental Studies Research Funds
FAQ	frequently asked question
FERC	Federal Energy Regulatory Commission
GDP	Gross Domestic Product
GFR	*Guidelines for Filing Requirements*
GSX	Georgia Strait Crossing Pipeline Limited
IPL	international power line
Line 9	Enbridge's crude oil pipeline from Montreal to Sarnia
M&NP	Maritimes and Northeast Pipeline Management Ltd.
Manitoba Hydro	Manitoba Hydro-Electric Board
MOU	Memorandum of Understanding
NB Power	New Brunswick Power Corporation
NEB or Board	National Energy Board
NEB Act	*National Energy Board Act*
NGLs	natural gas liquids
NOVA	NOVA Gas Transmission Ltd.
OPEC	Organization of Petroleum Exporting Countries
OPR-99	*Onshore Pipeline Regulations, 1999*
PDF	Portable Document Format
Powerex	British Columbia Power Exchange Commission
RTO	regional transmission organization
SEMS	Safety and Environmental Management System
SGML	Standard Generalized Markup Language
Sumas	Sumas Energy 2 Inc.
TMPL	Trans Mountain Pipeline Company Ltd.
TransCanada	TransCanada PipeLines Limited
Vector	Vector Pipeline Ltd.
WCSB	Western Canada Sedimentary Basin
Westcoast	Westcoast Energy Inc.
WTI	West Texas Intermediate

Metric Conversion Table

The Board uses the International System of Units. The energy content of a 30-litre tank of gasoline is approximately one gigajoule. A petajoule is one million gigajoules. On average, Canada consumes about one petajoule of energy for all uses (heat, light and transportation) every 50 minutes.

The following conversion table is provided for the convenience of readers who may be more familiar with the Imperial System.

Approximate Conversion Factor		
metre	=	3.28 feet
kilometre	=	0.62 mile
hectare	=	2.47 acres
cubic metre of oil	=	6.3 barrels
cubic metre of natural gas	=	35.3 cubic feet
gigajoule	=	0.95 thousand cubic feet of natural gas or 1,000,000 British thermal units (Btu) or 0.16 barrels of oil or 278 megawatt hours of electricity

gigajoule	=	10^9 joules
petajoule	=	10^{15} joules
gigawatt hour	=	10^6 kilowatt hours
terawatt hour	=	10^9 kilowatt hours